RURAL ELECTRIFICATION AGENCY

ENERGY• EMPOWERMENT•EFFICIENCY

Environmental and Social Management Framework (ESMF)

fOR:

Distributed Access Renewable Energy Scale-Up

- Rural Access (Mini Grid/SHS)
- Urban Access (Interconnected/Roof-top Solar)
- Technical Assistance

SEPTEMBER 2023

FEDERAL GOVERNMENT OF NIGERIA

DRAFT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

FOR THE

DISTRIBUTED ACCESS RENEWABLE ENERGY SCALE-UP PROJECT (DARES)

SEPTEMBER 2023

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ACRONYMS AND ABBREVIATIONS

AEAM	Adaptive Environmental Assessment and Management
AIDS	Acquired Immune Deficiency Syndrome
AP	Affected Person
ARAR	Applicable or Relevant and Appropriate Requirements
CBO	Community Based Organizations
CO	Cleaner Operation
Covid-19	Corona Virus Disease 2019
DDI	Diversity and Disaster Initiative
EA	Environmental Assessment
EEP	Energizing Education Program
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMSP	Environmental and Social Management Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standards
ESSF	Environmental and Social Screening Form
ETP	Energy Transition Plan
FGD	Focused Group Discussions
FGN	Federal Government of Nigeria
FME/FMEnv	Federal Ministry of Environment
FMPW&H	Federal Ministry of Power Works & Housing
FMWR	Federal Ministry of Water Resources
GIS	Geographic Information Systems
GRC	Grievance Redress Committee
GRM	Grievance Re-dress Mechanism
HAP/HMP	Health Action Plan/Health Management Plan
HAZCOM	Hazard Communication Programs
HIA	Health Impact Assessment
HIV	Human Immunodeficiency Virus
HSE	Health Safety and Environment
IDA	International Development Association
IFC	International Finance Corporation
ILO	International Labour Organization
IMM	Impact Mitigation and Monitoring
IMT	Institute of Management and Technology
INDC	Intended Nationally Determined Contributions
ITC	Instruction to Consultants
JHA	Job Hazard Analysis
LGA	Local Government Area
LOI	Letter of Invitation
M&E	Monitoring and Evaluation

MDA	Ministry Department and Agencies
MOUAU	Michael Okpara University of Agriculture Umudike
MSDS	Material Safety Data Sheets
MST	Minimum Subsidy Tender
NCDC	**Nigeria Center for Disease Control**
NDA	National Defense Academy
NERC	National Electricity Regulatory Commission
NESREA	National Environmental Standard Regulation and Enforcement Agency
NGO	Non-Governmental Organization
NPE	National Policy on Environment
OBF	Output Base Fund
OHS	Occupational Health and Safety
OP/BP	Operational Procedures/Bank Procedures
PAPs	Project Affected Persons
PBG	Performance Based Grant
PC	Pollution Control
PMU	Project Management Unit
PPE	Personal Protection Equipment
PPSD	Project Procurement Strategy Document
PSRP	Power Sector Recovery Program
RAP	Resettlement Action Plan
RE	Rural Electrification
REA	Rural Electrification Agency
SHS	Solar Home System
TCN	Transmission Company of Nigeria
TOR	Terms of Reference
WB	World Bank

EXECUTIVE SUMMARY

ES1: PROJECT BACKGROUND

Following the approval of the Power Sector Reform Program (PSRP) on 22 March 2017, the Federal Government of Nigeria (FGN) seeks to increase electricity access in remote, low density and traditionally underserved areas of the country through the Rural Electrification Agency (REA). The Distributed Access Renewable Energy Scale-up (DARES) directly promotes these objectives.

The DARES is nationwide in scope and it aims to provide electricity to households, firms and public institutions. Most of the project's funds will be used to stimulate private construction and operation of off-grid electricity supply systems by providing financial incentives and technical support.

The project activities will take place nationwide. Specific locations of subproject activities are not known at this stage and this necessitates the preparation of this Environmental and Social Management Framework (ESMF). The subproject locations will be known during project implementation in the next one year and site-specific instruments including the Environmental and Social Impact Assessment (ESIA) and/or Environmental and Social Management Plans (ESMPs) shall be prepared prior to commencement of civil works.

The Nigeria DARES project will scale up successful elements of the Nigeria Electrification Project (NEP)**.** NEP has catalyzed the establishment of an off-grid and mini grid industry in the country, with 52 off-grid solar companies and 61 mini grid companies that have met rigorous qualification requirements to participate in the program. Experience from the NEP suggests that results-based financing mechanisms (such as Performance Based Grants[1] for mini-grids and Output Based Funds[2] for solar home systems) are an effective approach to promote scaling up of distributed renewable energy solutions.

The World Bank will be supporting the Rural Electrification Agency in implementing the Distributed Access Renewable Energy Scale-up (DARES). The objectives of the project are to:

- Provide people with new or improved electricity service
- Provide Households with new electricity services, with emphasis on female headed households
- Provide MSMEs with new or improved electricity services, with emphasis on female headed MSMEs (number)
- Provide Households with clean and reliable electricity services of which are female headed households
- provide MSMEs with clean and reliable electricity services with emphasis on female headed MSMEs
- Mobilize Private capital for mini-grids and off grid solar home systems (SHS)

[1] PBG are performance-based, viability gap grants offered to NEP qualified mini-grid companies for every new client provided with electricity.
[2] OBF are performance grants of up to 60 percent of system cost to off-grid solar companies that includes a 20 percent discount on the costs of the system to the end consumers, for each eligible system installed and verified by the private sector.

There will be a new generation capacity of renewable energy installed using isolated mini-grids, interconnected mini-grids and off grid solar home system (SHS) to alleviate the power deficiency.

I. **Summary of key project activities**

The Project Development Objective (PDO) is to increase access to electricity services for households and MSMEs with private sector-led distributed renewable energy generation. The DARES involves the construction of 1 MW solar plants, associated mini-grids, installation of solar panels for residences and industries, and these are spread across the below enumerated components; Thus the DARES project will support the following activities:

1. **Component 1**. Solar Hybrid Mini Grids for Economic Development
    - ***Sub Component 1.1****: Minimum Subsidy Tender*
    - ***Sub Component 1.2****: Performance-Based Grants Program*

2. ***Component 2****. Stand-alone Solar Systems (SAS) for Households, MSMEs, and Agribusinesses.*
    - ***Sub Component 2.1*** *Performance Based Grants for Standalone solar (SAS)*
    - **Sub Component 2.2:** Catalytic Grants

3. **Component 3.** Technical Assistance
    - ***Sub Component 3.1*** *Institutional Strengthening*
    - ***Sub Component 3.2****: DARES Ecosystem and Implementation*
    - ***Sub-Component 3.3:*** *Engagement with States*

II. Summary of E&S Risks associated with the program

The key E&S issues are limited in number. Further, their magnitude is mostly proportionate to the small size of subprojects. The identified risks are systemic and expected to manifest themselves frequently across components.

The specific identified environmental and social (E&S) risks for each project component are (see Table 2 for details):

- **Component 1** supports construction and operation of a large number of rural mini grids by private developers. The expected key issues are: land acquisition associated with potential involuntary resettlement and/or economic displacement, and land use changes. possible voluntary land donation.[3] In the medium term, risks associated with disposal of lead-acid batteries and lithium batteries used in mini grids will present a challenge for the project's sustainability. Additional risks include stress on local water use and supply, construction impacts (including community and occupational health and safety), and waste management All of these can become systemic risks, if not managed well.
- **Component 2** supports stand-alone solar home systems provided by private firms. The core issue with SHS is long-term implications of the increased number of the energy storage units (containing batteries). This impact requires a strategic solution through a program for battery disposal/recycling, in which SHS distributors play a role. Additional risks would include weak labor practices

[3] Voluntary Land Donation (VLD) is open to abuse and coercion, as such, it should not be encouraged on this project except in instances where the donation meets the requirements set out in the VLD guidelines in the annex of this ESMF.

among SHS companies, such as possible use of child or forced labor, or inadequate occupational health and safety (OHS) practices.

III: Summary of the procedures to be followed for Component 1 investments

For the Minimum Subsidy Tender (MST), the Competitive Tendering Program has 3 main stages: (1) Site Identification stage; (2) Tendering Process stage; and (3) Construction and Operation stage. Figure 5.1.1 shows the workflow of this component and the general E&S responsibilities of each key party

Also for the Performance Based Grants (PBG) program, it has 3 major stages: (1) Proposal–Acceptance into the Program; (2) Design Verification for Sites; and (3) Construction & Operation..

IV: Summary of the procedure to be followed for component 2 investments

For the subcomponent 2, the process also has three main stages: (1) Distributor Qualification Process; (2) SHS Installation Stage; and (3) Post Installation Stage**.**

V: **Summary of key environmental and social management plans prepared for the DARES**

A separate instrument such as Resettlement Plan Framework (RPF), Labor Management Plan (LMP) and Stakeholder Engagement Plan (SEP) has been prepared for the Project, based on the World Bank's Environmental and Social Standards (ESS). The RFP, LMP and SEP will be made available once it has being cleared by the WB and the relevant National Institutions

Need for the DARES Intervention

The REA is reforming itself to be the lead agency to help Nigeria achieve its vision of achieving universal access to affordable and sustainable electricity to improve the quality of life and economic opportunities for unserved and underserved communities by 2030.

Objectives of the Environmental and Social Management Framework

This Environmental and Social Management Framework (ESMF) is an environmental and social assessment and management tool for all three DARES components. This document shall provide guidance for satisfactory assessment and management of environmental and social impacts at sub-project level through appropriate measures during the planning, design, construction and operation phases of various investments. The ESMF will provide guidelines for assessing the environmental, socio-economic, and health impacts of the project, as well as recommending appropriate mitigation measures and monitoring plans in line with the applicable Environmental and Social Standards (ESS).

ES2: Policy and Regulatory Framework

In Nigeria, the power to enforce all activities that might impact the environment is vested in the Federal Ministry of Environment (FMEnv). The FMEnv is also responsible for social safeguards related to developments in Nigeria. In addition to the provisions of the EIA Act, the National Social Protection Policy (NSPP) (2016) provides the commitment of the Government of Nigeria to the effective mobilization and efficient utilization of national resources to improve the quality of life of its citizens. The policy draws from the 1999 Constitution of the Federal Republic of Nigeria (as amended), Chapter 2 (Sections 16 & 17) which provides the basis for the provision of social protection in the country. The policy also emphasizes the direct application of international agreements ratified by Nigeria. These include the Universal

Declaration of Human Rights (1948), relevant UN and ILO conventions, and the African Charter on Human and Peoples' Rights (1981). The FMEnv has a mandate to coordinate environmental and social protection and conservation of natural resources for sustainable development in Nigeria. The project will be implemented in accordance with Nigerian EIA Act and the World Bank's Environmental and Social Framework (ESF).

ES3: PROJECT ENVIRONMENTAL AND SOCIAL BASELINE

The DARES will have a nationwide coverage, in this regard; a general overview of the environmental covering;

- Environmental baseline
- Vegetation
- Hydrology
- Geological
- Bio-diversity.

Also, the social baseline of Nigeria; was espoused with a social baseline on general energy distribution and consumption rates based on previous studies and data. It is expected that the eventual and more elaborate environmental and social assessment studies to be undertaken will provide in detail, the specific and peculiar environmental and social baseline conditions for each project sites. Thus, the project area of influence (which cuts across Nigeria) is divided into three main climatic regions: Tropical Rain Forest Region, Near Desert Region and Savannah Region.).

ES 4: THE ENVIRONMENTAL AND SOCIAL RISKS ASSOCIATED WITH THE DARES PROJECTS

The identified risks are systemic and expected to manifest themselves frequently across project components. A detailed analysis of potential E&S impacts and risks are given in the main report, and a summary of these key impacts are given below in all, some of the potential impact identified across the components was found to include;

- Noise impacts are envisaged during the movement and transportation of equipment.
- Waste generation, (electronic and hazardous)
- air pollution
- traffic hazards and travel delays
- Risk of poor OHS practices: Accidents may occur which can result in injury and fatalities. working from height at the roof top of buildings may also bring an occupational hazard for the solar installation and general construction impacts. Grievances, Complaints, Disruption of activities and Vandalism: Grievances from PAPs within the program area of influence.
- Labour Influx: Conflicts of interests may arise among and between workforces.
- GBV/SH/SEA: Women and girls may be exposed to sexual harassment, exploitation, abuse and violence as a result of interactions with workers.
- Illicit Behaviours, such as theft and substance abuse
- Community Health and Safety

ES5: MITIGATION FOR THE DARES

The risks associated with the DARES will be managed and mitigated through the application and use of the ESMF and other targeted instruments, including the RAP, LMP and the SEP**.** The ESMF incorporates an overall environmental and social management process for DARES

project and the proposed subprojects. The process involves steps and activities for the REA to carry out the environmental and social assessment (ESA) of projects in line with the objectives of the ESMF and develop an Environmental and Social Management Framework Guidelines for the mitigation of the potential negative risks and impacts and for monitoring compliance with the relevant Environment and Social Standards (ESSs) of the ESF.

ES6: ESMF IMPLEMENTATION AND MONITORING PLAN

In this ESMF the implementing Agency being the REA and other relevant Institutions are captured.

Further the sub-national institutions are meant to carryout the;

- Enforcement of all environmental legislations in the states
- Minimization of impacts of physical development on the ecosystem
- Preservation, conservation, and restoration to pre-impact status of all ecological process essential for the preservation of biological diversity.
- Protection of air, water, land, forest and wildlife within the state.
- Pollution control and environmental health in the state

Moreover, the main implementing agency is to ensure.

i. Ensure proper and timely implementation of environmental and social interventions proposed in this ESMF and other relevant documents to be prepared based upon the ESMF such as the ESIA/ESMP.
ii. Alert project authorities by providing timely information about the success or otherwise of the environmental and social management process outlined in this ESMF in such a manner that appropriate decisions can be made to improve upon the process or avert any adverse impact.
iii. Make a final evaluation to determine whether the mitigation measures incorporated in the technical designs and the ESMP have been successful in such a way that the pre-project environmental and social condition has been restored, improved upon or is worse than before and to determine what further mitigation measures may be required.

ES7: ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT PROCESS

The ESMF incorporates an overall environmental and social management process for DARES project and proposed subprojects. The process involves steps and activities for the Borrower to carry out the environment and social assessment (ESA) of projects in line with the objectives of the ESMF and develop an Environmental and Social Management Framework Guidelines for the mitigation of the potential negative risks and impacts and for monitoring compliance with the relevant Environment and Social Standards (ESSs) of the ESF.

Moreover, the REA will provide overall coordination of the project and lead in the implementation of the project components, which will include overall responsibility for E&S due diligence and compliance monitoring. Specific arrangements and responsibilities for each component are as follows:

- Under **Component 1**, REA will establish operating guideline[4] and specific construction requirements for site and developer selection, which include E&S aspects. Competent

[4] There are two processes for E&S risk management for this component. One covers the minimum subsidy

private sector mini grid developers who apply for grants to support their activities for identification [5] development, construction, and operation of mini grids across the country will have to indicate in their respective proposals how they intend to address E&S sustainability issues that could be associated with these activities. These selected companies will be responsible for putting in place a corporate Environmental and Social Management System (ESMS), satisfactory to REA, for implementing the E&S risk identification and management measures on the ground, to ensure subproject compliance with applicable E&S requirements as stated above. This is important, as the ESMS is an overarching policy document of the company on environmental and social issues however, the ESMP/ESIA are site-specific instruments to manage specific sites.

- Under **Component 2**, REA will establish company selection criteria and compliance clauses in the grant agreement, both of which will include E&S requirements. Qualified companies will install units of rooftop solar per the grant agreement and will be required to have an ESMS that will focus on key risks for this component (labor issues, battery/ waste management, and OHS issues).

- Under **Component 3**. Most of the E&S concerns are not applicable to this component.

Currently REA-PMU has two existing E&S (one Environmental specialist and one Social Specialist) staffs. For the proposed DARES this number would need to be increased to include two additional E&S officers, a GBV officer. The REA's Project Management Unit (PMU) will oversee implementation of all E&S processes. REA will ensure that mini grid developers and SHS companies have adequate Environmental and Social Management Systems (ESMS), and Terms of Reference (TOR) for hiring the consultants/contractors and other project documents are consistent with relevant country and World Bank requirements.

Furthermore, REA will supervise REA's zonal offices in the six geopolitical zones, which will support REA in managing and monitoring subprojects in their specific zones. It is also REA's responsibility to provide leadership around strategic E&S issues, including strategy and engagement with private sector project participants to deal with out-of-use solar devices, such as batteries and other e-waste disposal and recycling, dealing with land-related issues, and harmonizing funder and government E&S requirements for mini grid development as part of "ease of doing business" initiative for the sector.

Specific attention will be paid to gender dynamics as women and men have different access to information, legal standing, marital status and income and literacy rates at the project site which influences how they participant in consultations and how they are impacted by e.g. land acquisition and livelihood restoration. A gender specialist will be hired and embedded in the PMU to build capacity at REA and work across the various counterparts e.g. contractors and solar enterprises to deliver on the gender actions outlined in the ESMF and under the project

tender and the second covers the performance-based grant process for mini grid developers. Conceptually, these processes are very similar (with the difference in timing of certain steps) and thus are presented here as one.

[5] REA's involvement will primarily be through identification of demand for electrification in a range of communities for the minimum subsidy tender, but the actual mini grid sites within these communities will be identified by private sector developers. For the performance-based grants, private sector developers will select both the community and the exact location of the proposed mini grids within those communities.

ES8: INSTITUTIONAL ARRANGEMENTS FOR ESMF IMPLEMENTATION

The successful implementation of the ESMF depends on the commitment of REA, the private sector and related institutions, and the capacity within the institutions to apply or use the ESMF effectively. Chapter 8 captures succinctly the main implementing agencies of the ESMF and their roles on this Project.

Further the sub-national institutions are meant to carry out the:

- Enforcement of all environmental legislations in the states
- Minimization of impacts of physical development on the ecosystem
- Preservation, conservation and restoration to pre-impact status of all ecological process essential for the preservation of biological diversity.
- Protection of air, water, land, forest and wildlife within the state.
- Pollution control and environmental health in the state.

ES9: STAKEHOLDER CONSULTATION

Stakeholder Engagement and Feedback via providing data and details on the existing situation, management status of the NEP has been instrumental in designing the DARES Project. A series of consultations were held with the private sector, the REA and the World Bank. For the NEP for which, the DARES is an offshoot, continuous consultations with communities and other relevant stakeholders such as NGO and CBOs is an ongoing process In the course of earlier engagement some of the stakeholders present and consulted included:

- Rural Electrification Agency (REA)
- Federal Ministry of Health (FMoH);
- Federal Ministry of Environment (FMEnv);
  Federal Ministry of Finance (FMoF);
  National Primary Healthcare Development Agency.

The proposed DARES share similar stakeholders as above and any other inclusion; the ESMF will be updated accordingly. A summary of the consultations done so far are presented in the table 17.

For each subproject, the REA-PMU will establish a grievance redress mechanism (GRM) that will allow the general public in the subproject area, affected subproject communities or individuals, and PAPs to file complaints and to receive responses in a timely manner. A separate GBV GRM shall also be established to address issues relating to GBV/SEA/SH and any victims. The GRM system will record and consolidate complaints and their follow-up.

While the GBV GRM is designed to exclusively and confidentially handle matters of GBV/SEA/SH nature, the project GRM system will be designed to handle complaints perceived to be generated by the subprojects or the personnel. It may also include disagreements about electricity access and other related matters. The PMU will assign a specific staff member to ensure that this is functioning properly. The consultants should review any existing GRM systems (government/traditional) that are operative in the area and propose ways that the GRM may fit within these systems. Ideally the subproject GRM should have second and third levels of appeal (including the court system, if appropriate, for legitimate claims that cannot be resolved at lower levels). The functioning of the GRM system, how to register complaints (written, by phone, or in person), where to go and hours of service, all should be clearly explained in local language during initial public consultations on the

subproject. Local language brochures should be provided reiterating the functioning of the GRM.

ES10: CAPACITY BUILDING AND TRAINING REQUIREMENTS

For effective implementation of the ESMF, there will be a need for enhanced E&S capacity in REA. Currently REA-PMU has two existing E&S (one Environmental specialist and one Social Specialist) staffs. For the proposed DARES this number would need to be increased to include two additional E&S officers, a GBV officer etc). The REA being the implementing institution, as well as key private sector entities responsible for implementation of activities under project components need to be supported with capacity training. Implementers need to identify and understand the social and environmental issues. Appropriate understanding of the mechanisms for implementing the ESMF will need to be provided to the various stakeholders implementing REA projects. It will also be important to ensure that REA has sufficient capacity and systems for effective oversight of the fairly complex processes for E&S risk management with multiple parties involved.

The DARES Coordinating office will disclose the ESMF as required by the Nigeria EIA public notice and review procedures as well as the World Bank Disclosure Policy at the World Bank external website. Copies of other E&S instruments are required to be disclosed in like manner. Thus, ESMF and subproject ESIA, ESMP and other relevant instruments will be disclosed on the REA and the Federal Ministry of Environment website.

CHAPTER ONE: INTRODUCTION

1.1. Background and Context

The Federal Executive Council approved the Power Sector Reform Program (PSRP) on 22 March 2017. The Federal Government of Nigeria (FGN) seeks to increase electricity access in remote, low density and traditionally underserved areas of the country through the Rural Electrification Agency (REA). The Distributed Access Renewable Energy Scale-up (DARES) directly promotes these objectives, and will provide electricity access to serve households, enterprises, community facilities, and small businesses. While the project is technology neutral, it is expected that most of the power under the project will be generated by solar technology.

The project is nationwide in scope. The project aims to provide electricity to households, firms and public institutions in a least-cost and timely manner. Most of the project's funds will be used to stimulate private construction and operation of off-grid electricity supply systems by providing financial incentives and technical support. Some of the project funds will be used to acquire, by competitive tender, supply systems for selected Federal institutions/communities. The project will also co-finance Technical Assistance.

The Nigeria DARES project will scale up successful elements of the Nigeria Electrification Project (NEP)**.** NEP has catalyzed the establishment of an off-grid and mini grid industry in the country, with 52 off-grid solar companies and 61 mini grid companies that have met rigorous qualification requirements to participate in the program. Currently, through the NEP the country has achieved the construction and commissioning of over 100 mini grids. The experience from the NEP suggests that results-based financing mechanisms (such as Performance Based Grants (PBG)[6] for mini-grids and Output Based Funds (OBF)[7] for solar home systems) are an effective approach to promote scaling up of distributed renewable energy solutions. Compared to top-down approaches that involve extensive capacity and preparation by the public sector, a private sector led approach does not face the risks and delays of large scale public procurement, delegates environmental and social compliance to private companies that can demonstrate adequate capacity, and places the responsibility for customer selection, business strategy and execution squarely in the hands of the private sector, which allows for swifter deployment and more commercial decision-making. The public sector is tasked with planning, regulation, grievance redress, and oversight – where its strengths and mandate lie.

[6] PBG are performance-based, viability gap grants offered to NEP qualified mini-grid companies for every new client provided with electricity.

[7] OBF are performance grants of up to 60 percent of system cost to off-grid solar companies that includes a 20 percent discount on the costs of the system to the end consumers, for each eligible system installed and verified by the private sector.

Figure 1.1: DARES Forecasted Impact (Source: WB; Draft DRES PAD)

The Nigeria DARES project aims at ensuring the sustainability of distributed access solutions through productive uses of electricity and demand stimulation**.** To foster PUE, several challenges and barriers have to be overcome such as the lack of confidence in the viability of PUE technology and business models, limited awareness among stakeholders on PUE benefits, limited access to finance for MSMEs with limited collateral, availability of appliances and unclear regulatory environment as captured in figure 1.1 above. While some PUE technologies are now mature, the market is still nascent in Nigeria with only a few companies and suppliers providing such services. A comprehensive and holistic ecosystem has to be built to fully tackle the market pot.

1.1.2. Need for the DARES Project

Nigeria has the largest electricity access deficit in absolute terms of any country in the world, and the trend is worsening. As of 2020, 55 percent of Nigeria's population had access to electricity, leaving over 91 million people without access.[8] Large disparities exist in access between urban areas (82 percent) and rural ones (31 percent) as well as by income, with only 31 percent of the poorest 40 percent of the population[9] having access to electricity nationwide (Fig. 1.2). The electricity access deficit has remained at 45 percent since 2015, and yet the net access deficit has increased by over 7 million citizens over the last decade, as the rate of population growth has outpaced the increase in electrification, making Nigeria an outlier even in Sub-Saharan Africa. Access to electricity has not only impacted households but has presented a challenge for effective delivery of essential public services such as health and education. Only 40 percent of functional primary health facilities and 26 percent of primary schools in Nigeria have access to electricity.

[8] Tracking SDG7, World Bank 2022.
[9] NBS survey data

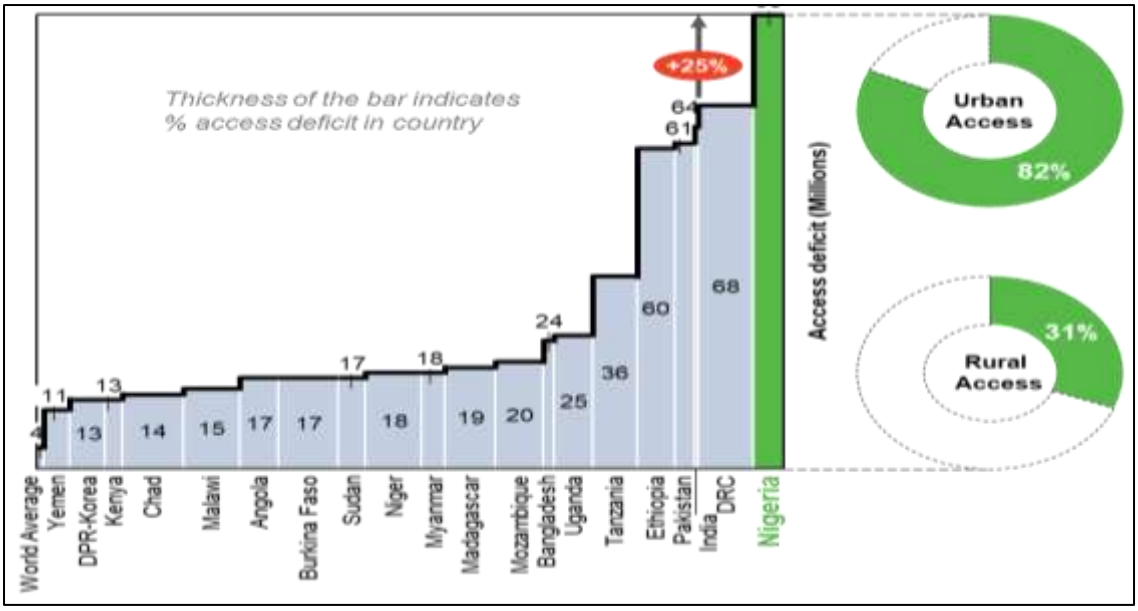

Figure 1.2: Deficiency in Electricity Access in Nigeria (Source: WB)

Recognizing the need to expand access in unserved and underserved population, the FGN approved the Rural Electrification Strategy and Implementation Plan (RESIP) and forward-looking Mini-Grid Regulations in 2016. The FGN established the Rural Electrification Agency (REA) through the Electric Power Sector Reform Act of 2005 to help Nigeria achieve its vision of achieving universal access to affordable and sustainable electricity to improve the quality of life and economic opportunities for unserved and underserved communities by 2030. The FGN launched the Nigeria Electrification Project (NEP) in June 2018 as a results-based, private-sector led initiative to implement the RESIP. Nigeria DARES will support FGN's vision[10] to reach universal electrification. Successful ongoing implementation of NEP has created an ecosystem of private-sector led electrification in Nigeria – specifically for the off-grid solar and Mini-Grids industries. This ecosystem has evolved around NEP and is supported by DFIs[11] (such as AfDB, GIZ, FCDO, USAID), Nonprofit organizations (GEAPP, RMI), Investors (Commercial Banks, investment management, guarantee firms) and partnerships.

1.2. Project Description

The DARES program is required to construct up to 1MW of mini grid solar powered plants in both private and public lands in about 300-400 sites across the federation. This will includes the construction of localized grids for the evacuation of the generated power. The program would also involved the construction of rooftop solar plants upto 1 MW in public buildings including the installation of solar panels on the roof of residences and small scale industries. Hence, the project development objective (PDO) is to increase access to electricity services for households and MSMEs with private sector-led distributed renewable energy generation.

As currently designed, the DARES project is structured around three components:

[10] As outlined in the approved ETP

[11] **AfDB** – African Development Bank, **GIZ** - The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, **FCDO** – The Foreign, Commonwealth & Development Office of the United Kingdom, **USAID** - The United States Agency for International Development, **GEAPP** – The Global Energy Alliance for People and Planet, **RMI** – Rocky Mountain Institute.

Component 1. Accelerating Mini grids (US$1023 million, US$ 410 million equivalent from IDA, and US$ 613 million from private sector funding). This component will support the development of privately owned and operated solar hybrid mini grids in unserved (primarily rural and remote) and underserved (primarily urban and peri-urban) areas with high economic growth potential. The mini grid component consists of two investment sub-components defined by their different subsidy approaches. It will be implemented in parallel: Sub-Component 1.1- the minimum subsidy tender and sub-component 1.2- performance-based grant program**.** These sub-components target different sets of private developers (although there may be some overlap), as summarized in Table 2 below.

Table 2. Description of component 1

Component	Approach					Result Based Grant	
	Objective	Geographic	Site selection	Target Cluster Type	System Capacity	Determination	Type
1.1 Minimum Subsidy Tender							
MST for Isolated Mini Grids	Last-mile access	Rural, Remote	REA led (aggregated demand)	Residential and MSMEs	Up to 1MW	Competitive	Per connection
MST for Interconnected Mini Grids	Energy Transition Reliable supply	Urban, peri-Urban	DISCO led (aggregated demand)	Residential and economic clusters[12]	Up to and above 1MW	Competitive	Percentage of CAPEX
State Government Led Solar Rooftop Solution	Energy Transition Reliable supply	Urban, peri-Urban	State govt. led (aggregated demand)	Large general hospitals	Up to and above 1MW	Competitive	Percentage of CAPEX
1.2 Performance-Based Grants							
PBG for Isolated Mini Grids	Last-mile access	Rural, Remote	Developer led (site by site)	Residential and MSMEs	Up to 1MW	Pre-determined	Per connection
PBG for Interconnected Mini Grids	Energy Transition Reliable supply	Urban, peri-Urban	Developer led (site by site)	Residential and economic clusters	Up to 1MW	Pre-determined	Percentage of CAPEX

Sub-Component 1.1: Minimum Subsidy Tender for Mini Grids (IDA US$215 million equivalent). The MST sub-component will aggregate demand and prepare portfolios of mini grid projects for tender. The mini grids will be privately financed, owned, and operated, and the tender will select the developer that needs the lowest subsidy to do so. Three separate MST pipelines will be used; one for isolated mini grids, one for interconnected mini grids, and one for solar rooftops in Lagos.

Component 1.2: Performance-Based Grants (PBG) Program (IDA US$195 million equivalent). Under this sub-component, REA will provide administratively set PBGs to mini grid operators based on new customer connections (US$/end users) for isolated mini grids and the percentage of CAPEX for interconnected (grid-connected) mini grid projects. Performance-based grants will be made available to mini grid developers on a rolling basis and differentiated based on geographic and socio-economic factors (determined by existing mini grid activity) and consumer classes (residential, PUE). Eligible projects must have minimum commercial or productive loads to ensure sustainability overall.

[12] Economic clusters are locations with high density of commercial and productive activities adding economic value which are also co-located. Examples are markets, plazas, cottage industries, commercial streets, agro-allied centers etc.

Component 2. Stand-alone Solar Systems for Households, MSMEs, and Agribusinesses (IDA US$715 million equivalent, of which US$300 million IDA equivalent and US$415 million from private sector funding). This component as further described in table 3 will expand the availability and affordability of standalone solar systems (SAS) for households (basic electrification), MSMEs, and agribusinesses (PUE support) in rural areas. Through targeted and competitively awarded performance-based and catalytic grants, the uptake of 2,750,000 quality-certified solar home systems (SHS) and 75,000 PUE products in rural areas and among lower-income segments will be promoted. Under sub-component 2.1, the performance-based grants (PBG) will provide results-based payments per connection (verified product sale). Under sub-component 2.2., catalytic upfront grants will support companies seeking to distribute in hard-to-reach, underserved areas focusing on poor, remote, and hardest-to-reach consumers.

Table 3: Description of component 2

Component	Approach				Subsidy	
	Objective	Modality	Geographic	Target	Determination	Type
2.1 Performance Based Grants						
PBG for SHS	Last mile access	Private Sector led	Rural, remote	Households, MSMEs	Pre-determined	Per connection
PBG for PUE	Productive uses	Private sector led	Rural, remote	MSMEs, farmers, Agribusinesses,	Pre-determined	Per connection
2.2. Catalytic Grants						
Catalytic Grant	Last mile access in fragile, hard areas	Private sector led	Rural, remote	Households, MSMEs, agribusinesses	per business plan	Milestone based

Sub-Component 2.1 Performance Based Grants for Standalone Solar (SAS) (IDA US$ 280 million equivalent). The sub-component will provide PBGs with the ability to rapidly deploy SAS solutions in rural and underserved areas. Supply and demand side support will be provided through the PBG to address the viability and affordability gap, respectively. Companies will receive a grant based on independently verified outputs with incentives varying by location and type of business model. The sub-component will help reduce the end-user prices for households identified as poor and vulnerable by the National and State Social Registry. This sub-component will also support deploying solar-powered PUE equipment to MSMEs, agribusinesses, and commercial customers.

Sub-Component 2.2: Catalytic Grants (IDA US$ 20 million equivalent). This sub-component will incentivize companies targeting the poor, remote, or hardest-to-reach consumers in the country. Grants will be offered on a matching basis to ensure the company commits its funding and has ‘skin in the game.

Component 3. Technical Assistance (US$80 million, US$40 million IDA equivalent and US$40 million from other development partners). This component will be supported by financing and collaboration from various development partners, such as GEAPP, SEforALL, JICA, USAID, etc., to create an ecosystem for universal electrification.

Sub-Component 3.1: Institutional Strengthening (US$ 10 million IDA equivalent) will support activities to build institutional capacity, including (i) strengthening of implementation capacities of REA and FMOP (ii) development of critical studies, including the national electrification plan.

Sub-Component 3.2: DARES Ecosystem and Implementation (US$ 20 million IDA equivalent) will focus on (i) pipeline preparation for isolated and interconnected mini grids; (ii) building the PUE ecosystem, including geospatial mapping, demand stimulation and capacity building of financial institutions on market-based products and pricing, financial literacy; and (iii) managing E&S risks, including the development of citizen engagement framework.

Sub-Component 3.3: Engagement with States (US$ 10 million IDA equivalent) will focus on (i) supporting states in crafting their role in the energy transition agenda during decentralization by providing TA for designing electricity markets, building capacity of state-level sector institutions, developing regulatory and procurement capacity, and preparing policy framework and its implementation; (ii) determining viability for solar rooftop and setting up a one-stop-shop model for market creation – for interested and qualified states.

1.3 PDO Level Indicators

The key results (PDO Indicators) expected are as follows:

- CRI: People provided with new or improved electricity service (gender-disaggregated) (number).
- MSMEs are provided with new and improved electricity services (through mini grids or standalone solar), of which female managed MSMEs (number)
- Private capital mobilized for mini grids and standalone solar (US$ million)
- New generation capacity of renewable energy installed (MW)
- Net GHG emissions (using mini grids and standalone solar) (metric tons of CO2)

1.4 Focus Areas:

Focus Area 1: Solar Hybrid Mini grids i.e., Isolated mini grids, interconnected mini grids, solar roof top and franchising/embedded generation.

Focus Area 2: Standalone Solar i.e., Solar Home Systems (SAS) and Solar PUE Equipment

Focus area 3: Technical Assistance. The technical assistance provided through the project is aimed at increasing the capacity of institutions across the sector- public (REA, state governments) and private (FIs, DISCOs, developers). The project will also look to support the development of a long-term national electrification plan that will help provide clarity on policy, institutional responsibility, and investment needs for the sector.

Objectives of the Environmental and Social Management Framework. The ESMF clarifies E&S management policies, processes, and mitigation principles, organizational arrangements and design criteria to be applied to subprojects, which are to be prepared during project implementation by both REA and private sector companies participating in the project.

The ESMF has these core objectives:

- To ensure that the implementation of the project, for which the exact locations of the subproject sites are not definitively identified at this stage, will be carried out in an environmentally and socially sustainable manner.

- To provide information about scope of adverse E&S risks and impacts expected during subproject planning, construction and operation; describe the approach to mitigation and monitoring actions to be taken; and cost implications.
- To clarify the roles and responsibilities of REA, private sector mini grid developers and operators for components 1 and 3, SHS distributors for component 2, and other stakeholders with regard to E&S due diligence, management of risks and impacts, and monitoring.
- To provide the project implementers with an E&S screening process and risk management procedures that will enable them to identify, assess and mitigate potential E&S impacts of subproject activities, including through the preparation of a site-specific Environmental and Social Impact Assessments (ESIA) and/ or Environmental and Social Management Plans (ESMP) where applicable.

The ESMF's provisions must be operationalized by including E&S processes in all relevant operating guidelines and other practical applications (e.g., electricity demand surveys, SHS questionnaire tools) for each component.

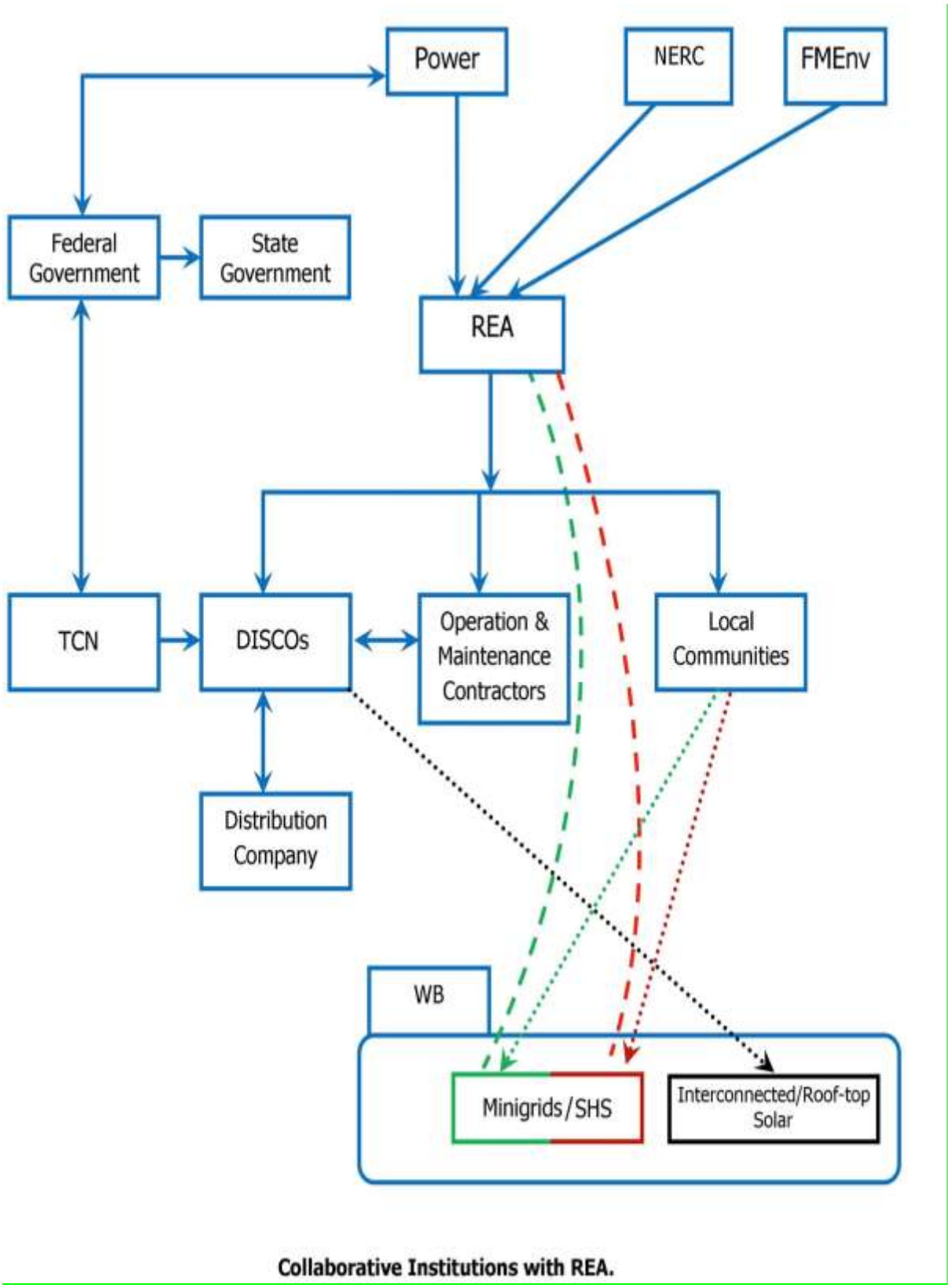

Figure 1.3: Collaborative Institutions with REA for the DARES implementation (Source: NEP, 2018)

1.5. Environmental and Social risks pertaining to DARES

The project will be implemented in accordance with the World Bank's Environmental and Social Framework (ESF) and the applicable Environmental and Social Standards (ESS). Nine of the ten Environmental and Social Standards (ESS) are applicable to the project. ESS applicable to the DARES project include ESS1 (Assessment and Management of Environmental and Social Risks and Impacts), ESS2 (Labor and Working Conditions), ESS3 (Resource Efficiency and Pollution Prevention and Management), ESS4 (Community Health and Safety), ESS5 (Land Acquisition, Restrictions on Land Use and Involuntary Resettlement), ESS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources), ESS8 (Cultural Heritage), ESS9 (Financial Intermediaries) and ESS10 (Stakeholder Engagement and Information Disclosure).

At this stage, the environmental and social risk on this Project is rated **Moderate**. The rating considers the nature of the project, the potential direct and indirect environmental and social risks and impacts, and the Recipients/Borrowers' capacity and experience on ESF implementation including managing the environmental risks and impacts. The project will have moderate environmental and social risks and impacts associated with its activities, such as construction of mini off-grids for rural electrification and scaling up for off-grid solar markets in accessing rural industries, urban area and public buildings. Other potential risks include generation of electronic and hazardous wastes, noise and dust emissions, solid waste, occupational and community health and safety risks, traffic obstruction, displacement of PAPs, Gender Based Violence, employment of underage, labour management issues and labour influx, common to civil works, procurement of non-energy efficient energy machinery. Potential adverse environmental and social impacts are site specific and reversible, and mitigation options are available.

1.6. Approach to the ESMF

The ESMF has been prepared in accordance with World Bank's Environmental and Social Framework (ESF) requirements and applicable Nigeria environmental assessment procedures and guidelines. The following approach and techniques were used in the development of the ESMF:

- Literature review and data gathering through desktop study.
- Field survey and visits were undertaken in project areas and within the areas of influence, which is national in nature.
- Cognizance of the challenges and risks associated with the implementation of the NEP was key.
- Participatory public and stakeholder consultations and discussions with relevant sector institutions including Ministries, Departments and Agencies (MDAs), vulnerable groups, and Non-Governmental Organizations (NGOs)
- Data analysis for risks/ impacts identification and guidelines for the preparation of subprojects Environmental and Social Management Plans (ESMPs): Although specific projects to be implemented under the DARES are not known at this stage, potential risks and impacts were identified through initial generic screening of the proposed sub-projects considering the socio-environmental conditions: field visits and consultations with focused groups.

- Review of comments and feedback from stakeholders; and
- Finalization of the ESMF for disclosure.

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Although all specific projects to be implemented under the programme, are not known at this stage, potential impacts were identified through initial generic screening of the anticipated projects in the light of the socio-environmental conditions; field visits and consultations with focus groups.

To ensure all projects are appropriately screened for environmental and social issues at their conception stage, a simple screening tool [See Annex 2] was developed to screen each project in terms of:

(i) Appropriate risk category (Moderate and Low);
(ii) Applicable local and international regulations and standards (e.g., labour, pollution, occupational health and other standards);
(iii) Applicable World Bank standards;

(iv) Level of stakeholder engagement (both sectoral and project level);
(v) Existing environmental and other (e.g. compensation) liabilities; and
(vi) Location sensitivities (e.g., sensitive environments and culture)

The screening tool provides necessary information to appropriately scope ESIA studies. These will include: environmental, social and other due diligence investigations.

CHAPTER TWO: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

2.1. Introduction

The DARES project will strictly adhere to and follow the World Bank's Environmental and Social Framework (ESF) as well as the legal and regulatory frameworks of Nigeria. In Nigeria, the power to enforce all activities that might impact the environment is vested in the Federal Ministry of Environment (FMEnv). Internationally, agencies such as the World Bank, IFC and other financial organizations usually set environmental criteria for projects, which must be met by project proponents before the agencies invest in them. This section provides an overview of relevant policies, laws and regulations that will guide the implementation and operation of the project. The key environmental policies, legal framework and procedures considered as relevant under the DARES project are presented below.

2.2. Relevant Regulatory Policies of Nigeria

Pursuant to Section 20 of the Nigerian 1999 Constitution, the state is empowered to protect and improve the environment and safeguard the water, air, and land, forest, and wildlife of Nigeria. The power to regulate all environmental matters in Nigeria is vested in the Federal Ministry of Environment (FMEnv) – a mandate that previously rested with the now defunct Federal Environmental Protection Agency (FEPA) set up by Federal Act 88, of 1988. This is done by the Environmental Assessment (EA) Department locally.

Several local laws and regulations as well as international treaties, acts and conventions apply to the energy sector in Nigeria. Thus, some number of laws, policies and instruments are available to support environmental management and the Environmental Impact Assessment process in Nigeria. The EIA Act of Nigeria is a key instrument covering environmental management in all development sectors. Mini grid projects, which are classified as category 2, are exempted from full EIA study, but ESMP except within an Environmentally Sensitive Area, and then ESIA will be required All ESIA reports are displayed at designated locations and at the project site to enable stakeholders to comment and make input. Due consultation with the stakeholders is done while the ESIA is being reviewed. This EA Department is also responsible for setting environmental standards and monitoring on behalf of government to ensure compliance.

In this section, an overview of the laws that relate to DARES is given. Moreover, the subproject will need be implemented in line with other Statutory Regulations, Legislations and Guidelines related to infrastructural Development activities in Nigeria some of which include:

i. Nigerian Urban and Regional Planning Law No 88 of 1992: specifically Nigerian Urban and Regional Planning Act CAP N138 LFN, 2004: This Act establishes a Development Control Department (DCD) charged with the responsibility for matters relating to development control and implementation of physical development plans at Federal, State and Local Government levels within their respective jurisdiction.
ii. National Guidelines for Environmental Audit in Nigeria, 2011: Section 41 of the EIA Act states that the Ministry is responsible for designing a monitoring programme for the project implementation stage, as well as making arrangements for the implementation of this monitoring programme. The Ministry is also required to inform the public of the outcome of the monitoring conducted. The Procedural Guideline

requires the Ministry to monitor the progress of the project from site preparation to commissioning in order to ensure compliance with stipulated mitigation measures and project specifications. The Ministry conducts the first audit after project commissioning and then hands over to NESREA to continue auditing project operations. Guidelines and Standards for Environmental Pollution Control 1991.

Land Use Act (1978)

The Land Use Act is the applicable law regarding ownership, transfer, acquisition and all such dealings on Land. The provisions of the Act vest every Parcel of Land in every State of the Federation in the Executive Governor of the State. He holds such parcel of land in trust for the people and government of the State. The Act categorized the land in a state to urban and non-urban or local areas. The administration of the urban land is vested in the Governor, while the latter is vested in the Local Government Councils. At any rate, all lands irrespective of the category belongs to the State while individuals only enjoy a right of occupancy as contained in the certificate of occupancy, or where the grants are "deemed".

Thus, the Land Use Act is the key legislation that has direct relevance to resettlement and compensation in Nigeria. Relevant Sections of these laws with respect to land ownership and property rights, resettlement and compensation are summarized in this section.

The National Guidelines and Standards for Environmental Pollution Control in Nigeria (1991)

This was launched on March 12th, 1991, and represents the basic instrument for monitoring and controlling industrial and urban pollution.

The National Effluents Limitations Regulation (1991)

This instrument makes it mandatory that industrial facilities install anti-pollution equipment, make provision for further effluent treatment, prescribe maximum limit of effluent parameters allowed for discharge, and spell out penalties for contravention. It also provides that all industries in Nigeria should be operated on the basis of Best Available Technology (BAT).

National (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations (1991)

Restrictions are imposed hereunder on the release of toxic substances and requirement of Stipulated Monitoring of pollution to ensure permissible limits are not exceeded; Unusual and accidental discharges; Contingency plans; Generator's liabilities; Strategies of waste reduction and safety for workers.

The Management of Solid and Hazardous Wastes Regulations (1991)

These regulate the collection, treatment and disposal of solid and hazardous waste for municipal and industrial sources and give the comprehensive list of chemicals and chemical waste by toxicity categories.

National Guidelines on Environmental Management Systems (1999)

The guidelines establish the requirement for an Environmental Management System (EMS) in 'all organisations /facilities in Nigeria'. They also state that this EMS should be audited annually or as deemed necessary.

National Guidelines for Environmental Audit

These are designed to serve as a reference for compliance with the Environmental Audit requirements of the FMEnv. It states that it is mandatory for a company to carry out an audit every 3 years or at the discretion of the Hon. Minister of the FMEnv.

National Policy on Flood and Erosion Control 2006 (FMEnv)

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

National Air Quality Standard Decree No. 59 of 1991

The FMEH is the regulatory agency charged with enforcing ambient air quality standards in Nigeria. The World Health Organization (WHO) air quality standards were adopted in 1991 as the national standards by the FMEH. These standards define the levels of air pollutants that should not be exceeded in order to protect public health (see table 3.1.10 below).

The National Environmental Standards and Regulations Enforcement Agency Act 2007 (NESREA Act)

After the repealing of the Federal Environmental Protection Act of 1988, the NESREA Act, 2007 became the major statutory regulation or instrument guiding environmental matters in Nigeria. It specially makes provision for solid waste management and its administration and prescribes sanction for offences or acts, which run contrary to proper and adequate waste disposal procedures and practices.

The National Oil Spill Detection and Response Agency Act 2005 (NOSDRA ACT)

This statutory regulation makes adequate regulations on waste emanating from oil production and exploration and its potential consequences to the environment.

Gender Based Violence Laws in Nigeria

Gender-based violence (GBV) refers to any harmful act that is perpetrated against a person's will and that is based on socially ascribed differences between males and females. In Nigeria, several laws have been put in place to address gender-based violence and protect the rights of women and other vulnerable groups.

The 1945 Universal Declaration on Human Rights served as the basis for subsequent declarations on the rights of peoples geared towards the protection of the rights of women such as the Convention on the Elimination of All Forms of Discrimination against Women 1979 to which Nigeria is a party.(42)

Some of the international treaties applicable to women and ratified by Nigeria include: -

- International Covenant on Civil and Political Rights (ICCPR) 29 July, 1993,
- International Covenant on Economic, Social and Cultural Rights (ICESCR) 29 July 1993,
- Optional Protocol on ICCPR concerning individual petition,
- Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) 28 June, 2001,
- International Convention on the Elimination of all Forms of Racial Discrimination (CERD) 16 October, 1967,
- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) 23 April, 1984,

- Optional Protocol on the Elimination of all Forms of Discrimination against Women 22 November 2004.

Further, the Violence Against Persons (Prohibition) Act (VAPP) was passed into law in May 2015. The Act was necessitated as a result of agitations for protection of persons against different forms of violence. The Act has strengthened advocacy against rape, female genital mutilation, partner battery, stalking, harmful widowhood practices while prohibiting all forms of violence, including physical, sexual, psychological, domestic, harmful traditional practices and discrimination against persons. It also provides maximum protection and effective remedies for victims and punishment of offenders. The Act is a key instrument for addressing GBV in Nigeria.

Furthermore, in 2020, the Nigerian government launched a National Sexual Offenders Register to help track and prevent sexual crimes. The register is designed to provide a database of sexual offenders, which can be used by law enforcement agencies and the public to identify and track offenders.

Labour Management Laws in Nigeria

Labour Act CAP L1, LFN 2004

The Labour Act is the primary law protecting the employment rights of individual workers. The Act covers protection of wages, contracts, employment terms and conditions, and recruitment; and classifies types of workers and special workers. Other laws that are of importance are the Constitution of the Federal Republic of Nigeria (Promulgation) Act (Chapter C23, Laws of the Federation of Nigeria 2004, as amended) and the National Industrial Court of Nigeria Act 2006, which prescribes the jurisdiction of the National Industrial Court of Nigeria (NICN). In addition, the following also apply:

- the Pension Reform Act 2014, which regulates the contributory pension scheme;
- the Personal Income Tax Act (Chapter P8 LFN 2004, as amended by the Personal Income Tax (Amendment) Act 2011), which regulates the taxation of employees' remuneration;
- the Employees' Compensation Act 2010, which regulates the payment of compensation to employees who suffer occupational diseases or sustain injuries arising from accidents in the workplace or during employment;
- the Industrial Training Fund Act (Chapter I9 LFN 2004, as amended), which requires employers to contribute 1% of their annual payroll to the Industrial Training Fund created by the act;
- the Immigration Act 2015, which regulates the employment of foreign nationals;
- the National Health Insurance Scheme Act (Chapter N42 LFN 2004), which established the national health insurance scheme; and
- the Trade Unions Act (Chapter T14 LFN 2004, as amended), which regulates the organisation of trade unions and their activities.

Disability Inclusion Laws in Nigeria

Discrimination Against Persons with Disabilities (Prohibitions) Act, 2018. This Act provides for the full integration of persons with disabilities into the society and establishes the National

Commission for Persons with Disabilities and vests the Commission with the responsibilities for their education, health care, social economic and civil rights.

Nigerian Electricity Health and Safety Standard Manual

The Nigerian Electricity Health and Safety Standard Manual is a set of guidelines and standards developed by the Nigerian Electricity Management Services Agency (NEMSA) to promote health and safety in the electricity sector in Nigeria. The manual was developed to address the high incidence of accidents and fatalities that occur in the electricity sector due to non-compliance with health and safety standards.

The key provisions of the Nigerian Electricity Health and Safety Standard Manual include:

Safety management system: The manual requires electricity distribution companies to develop and implement a safety management system to identify, assess, and manage risks in the workplace.

Electrical installations and equipment: The manual provides guidelines for the installation and maintenance of electrical installations and equipment, including transformers, switchgear, and overhead lines.

Personal protective equipment: The manual requires electricity workers to wear appropriate personal protective equipment, including helmets, gloves, and safety boots.

Work procedures: The manual provides guidelines for safe work procedures, including the isolation and tagging of equipment, the testing of circuits, and the use of ladders and scaffolding.

Emergency response: The manual requires electricity companies to develop emergency response plans and procedures to deal with accidents and incidents in the workplace.

Training and supervision: The manual requires electricity companies to provide training and supervision to employees to ensure their competence in carrying out their work safely.

Health and hygiene: The manual provide guidelines for maintaining a safe and healthy workplace, including measures to prevent the spread of infectious diseases.

The Nigerian Electricity Health and Safety Standard Manual applies to all electricity companies and workers in Nigeria, including those in the generation, transmission, and distribution sectors. The manual is designed to promote compliance with health and safety standards in the electricity sector and reduce the incidence of accidents and fatalities.

The Occupational Safety and Health Act of 2005

The Occupational Safety and Health Act of 2005 is a law in Nigeria that is aimed at promoting and protecting the health, safety, and welfare of workers in the workplace. The act was enacted to replace the Factories Act of 1990, which was limited in scope and did not adequately address contemporary occupational safety and health issues.

The key provisions of the Occupational Safety and Health Act of 2005 include:

Duties of employers: The act places a duty on employers to ensure the health, safety, and welfare of their employees in the workplace. Employers are required to provide safe working conditions,

equipment, and systems of work, as well as training and supervision to employees to ensure their safety and health.

Duties of employees: The act also places a duty on employees to take reasonable care for their own health and safety, as well as that of their co-workers. Employees are required to comply with all safety instructions and procedures provided by their employer.

Workplace hazards: The act requires employers to identify and assess workplace hazards and take appropriate measures to control or eliminate them. Employers are also required to provide protective equipment and clothing to employees where necessary.

Occupational health: The act requires employers to provide adequate health facilities and services to employees, including medical examinations and treatment where necessary.

Safety committees: The act provides for the establishment of workplace safety committees, comprising both management and employee representatives, to promote safety and health in the workplace.

Enforcement: The act establishes the Nigerian Institute for Occupational Safety and Health (NIOSH) as the regulatory body responsible for enforcing the provisions of the act. The NIOSH is empowered to inspect workplaces, investigate accidents, and prosecute employers who violate the act.

The Occupational Safety and Health Act of 2005 applies to all workplaces in Nigeria, including factories, mines, construction sites, and offices. The act also applies to all employers and employees, regardless of their sector of the economy.

2.3. Other Relevant Acts and Legislations at Federal and State Level
relevant to this ESMF

The following are the environmental and regulatory laws in Nigeria relevant for this ESMF:

- The National Environmental Standards and Regulations Enforcement Agency (NESREA) Act No 25 of 2007
- The National Guidelines and Standards for Environmental Pollution control in Nigeria (March 1991)
- The Land Use Act of 1978
- The National Environmental Protection (Effluent Limitation) Regulations S.I.8 of 1991
- The National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations S.I.9 of 1991
- The National Environmental Protection (Waste Management) Regulations S.I.15 of 1991
- Statutory Limits for Effluents and Gaseous Emissions FEPA, 1991
- Noise Limitations NESREA REGULATION 2009
- Harmful Waste (Special Criminal Provisions etc.) Act. Cap 165, LFN 1990
- Land Use Act, 1978
- States and Local Government Environmental Laws

The subproject will need be implemented in line with other Statutory Regulations, Legislations and Guidelines related to infrastructural Development activities in Nigeria some of which include:

- Nigerian Urban and Regional Planning Law No 88 of 1992
- National Guidelines for Environmental Audit in Nigeria, 2011
- Guidelines and Standards for Environmental Pollution Control 1991.

2.4. International Laws and Regulations

2.4.1 Applicable World Bank Environmental and Social Standards (ESS)

The Environment and Social Framework (ESF) of the World Bank provides methods and tools for the Borrower to carry out the Environment and Social Assessment (ESA) of programs and projects. Among the methods and tools that could be used by the Borrower, is the Environment and Social Management Framework (ESMF). At this stage, specific locations for interventions are unknown, therefore the ESMF has been used as the appropriate instrument to meet the requirements of the World Bank's ESF **hence potential impacts were identified through initial generic screening of the anticipated projects in the light of the socio-environmental conditions.**

The ESF sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards (ESS) that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

The ESF comprises:

1. A Vision for Sustainable Development, which sets out the Bank's aspirations regarding environmental and social sustainability.
2. The World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and
3. The Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower and projects.

The World Bank Environmental and Social Policy for Investment Project Financing (IPF) sets out the requirements that the Bank must follow regarding projects it supports through IPF. It also sets out the policy of the Bank to support borrowers to develop and implement environmentally and socially sustainable projects as well as build capacity in the assessment and management of environmental and social impacts and risks associated with the implementation and operation of projects. The World Bank, as part of the ESF also has environmental and social standards that borrowers must comply with for projects to be sustainable, non-discriminatory, transparent, participatory, environmentally, and socially accountable as well as conform to good international practices.

There are ten (10) Environmental and Social Standards (ESS) that establishes the standards that the Borrower and the project will meet throughout the project life cycle. Based on the scope of the DARES and the proposed subprojects construction and rehabilitation activities, Table 2.1 (Relevant Environmental and Social Standards for DARES) summarizes the World Bank ESSs considered to be relevant to the projects. Nine of the 10 WB ESSs are considered relevant to the project.

There are no Indigenous People in Nigeria hence ESS 7 does not apply to the proposed project.

The WB standards relevant to the project at this stage are as shown in the Table 1 below.

Table 1: Relevant Environmental and Social Standards for DARES

WB Environmental and Social Standard	Relevant to ACRESAL?		Relevant To DARES	How Project Addresses ESS Requirements
	YES	NO		
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	[x]	[ ]	Scope of anticipated civil works and activities with environmental and social risks and impacts. Need to assess, manage and monitor environmental and social risks and impacts associated with each stage of the project	This ESMF is prepared for DARES & specific mitigation measures developed. Site-specific ESMPs/ESIAs with mitigation measures is required for any proposed subprojects.
ESS2: Labor and Working Conditions	[x]	[ ]	Proposed project will result in employment creation and involve worker-management relationships linked with direct workers employed or engaged by the project implementing agencies, contracted workers, and primary supply workers for the solar panel equipment	This ESMF is prepared for DARES & specific mitigation measures developed. LMP has also been prepared to meet the requirements of the ESS. Site-specific ESMP/ESIA with mitigation measures is required for any subprojects
ESS3: Resource Efficiency and Pollution Prevention and Management	[x]	[ ]	Proposed project activity may generate pollution to air, water, and land during construction phases, construction waste, handling and disposal of hazardous chemicals and waste, and the disposal of end-of-life batteries containing hazardous materials during operation phase and consume resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels	This ESMF is prepared for DARES to contribute to a net GHG emissions reduction. The ESMF includes mitigation and management measures to avoid and/minimize risks and impacts due to oil spills and improper disposal and management of used *oil*. Assessment of ESS3 related risks and impacts will be undertaken according to WBG General and sector specific ESH Guidelines (i.e., EHS Guidelines for Electric Power Transmission and Distribution) and GIIP
ESS4: Community Health and Safety	[x]	[ ]	Project activities, equipment, and infrastructure may increase community exposure to health and safety risks and impacts including SEA/SH/STD. Also, communities may be subjected to climate change impacts' acceleration or intensification due to project activities	This ESMF is prepared for DARES & specific mitigation measures developed. Site-specific ESMP/ESIA with mitigation measures is required for any subprojects. SMP developed under other projects like ACReSAL, SURWASH, NG-CARES etc. will be modified to the proposed project specific needs to manage security risk.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	[x]	[ ]	Project-related land acquisition and restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both.	These activities are likely to result in land acquisition / displacement. Given that the locations of subprojects are not yet known at this stage of the project preparation, the project will update existing NEP Resettlement Policy Framework (RPF) to guide required land acquisition and resettlements issues. Site-specific ARAP/RAP shall be required for any subprojects
ESS6: Biodiversity Conservation and Sustainable	[x]	[ ]	Protecting and conserving biodiversity and sustainably managing living natural resources	This ESMF is prepared for DARES & specific mitigation measures developed. Site-specific

WB Environmental and Social Standard	Relevant to ACRESAL?		Relevant To DARES	How Project Addresses ESS Requirements
	YES	NO		
Management of Living Natural Resources			are fundamental to sustainable development.	ESMP/ESIA with mitigation measures is required for any subprojects
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	[ ]	[x]	Applies to a distinct social and cultural group identified in accordance with the provisions for indigenous people and does not apply to Nigeria. Standard is therefore not relevant to ACRESAL	Not Relevant
ESS8: Cultural Heritage	[x]	[ ]	Scope of civil works and activities may result in impacts to the traditions and cultural heritage of the people - an important economic and social asset for development	This ESMF is prepared for DARES & specific mitigation measures developed. Site-specific ESMP/ESIA with mitigation measures is required for any subprojects
ESS9: Financial Intermediaries	[x]	[ ]	DARES will support the development of at least 10,000 private sector led mini-grids (off-grid, under-grid and interconnected mini-grids) in target underserved and unserved clusters with potential productive loads; ultimately connecting 10 million people to electricity across Nigeria	An Environmental and Social Management System will be in place and documented prior to disbursement for each PFIs. Thus, the ESMS will be developed prior to appraisal and will immediately continue to develop and submit an ESMS meeting the requirements of ESS9 for the Bank approval prior to commencement of project activities.
ESS10: Stakeholder Engagement and Information Disclosure	[x]	[ ]	Development of strong, constructive and responsive relationships are important for successful management of a project's environmental and social risks	This ESMF is prepared for DARES & specific mitigation measures developed. SEP has also been prepared to meet the requirements of the ESS. Site-specific ESMP/ESIA with mitigation measures is required for any subprojects

The Nine ESSs that are considered relevant to DARES are summarized below.

ESS1: Assessment and Management of Environmental and Social Risks and Impacts

ESS1 sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs)

Under the ESS1 the borrower will ensure that the environmental and social assessment takes into account in an appropriate manner all issues relevant to the project, such that;
The environmental and social assessment will apply a mitigation hierarchy, which will:

- Anticipate and avoid risks and impacts;
- (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;
- (c) Once risks and impacts have been minimized or reduced, mitigate;25 and
- (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.

ESS 1 is relevant because sub-project activities under the project are expected to cause some impacts on the environment and these impacts will be mitigated accordingly. This ESMF is prepared for DARES project & specific mitigation measures developed to meet the requirements of ESS 1. Site-specific ESMPs/ESIAs ToR template is provided as annex I with mitigation measures is required for any proposed subprojects.

ESS2: Labor and Working Conditions

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

ESS2 in the project is relevant to direct workers employed or engaged by the project implementing agencies, contracted workers, and primary supply workers for the solar panel equipment. These will include, PIU's of the implementing institutions (Nigeria Electrification Project), construction workers hired for the anticipated mini-grids civil works (as required) and trained technicians for the installation and maintenance of the solar and mini grids. Therefore, as a requirement of ESS2, Labor Management Procedures (LMP) has been prepared, including clear information on the terms and conditions of employment, principles regarding non-discrimination and equitable opportunity, the establishment of workers' organizations, rules regarding child labor and forced labor, and occupational health and safety measures. The grievance mechanism for labor issues has also been reflected, drawing on national law and procedures.

The LMP is enshrined within the context of applicable Nigerian laws, notably the Labour Act 1974, Occupational Safety and Health Act 2005, Nigerian Electricity Health and Safety Standards Manual, the World Bank Environmental and Social Standards (ESS) 2: Labour and Working Conditions, International Labour Organization (ILO) and ISO 45001 requirements.

ESS 3 – Resource Efficiency and Pollution Prevention and Management. ESS 3 sets out the requirements to address resource efficiency and pollution prevention (air, water and land pollution and management arising out of economic activities and urbanization) throughout the project life-cycle consistent with Good International Industry Practice (GIIP). The specific objectives of this ESS are: To promote the sustainable use of resources, including energy, water, and raw materials; To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; To avoid or minimize project-related emissions of short and long-lived climate pollutants; To avoid or minimize generation of hazardous and non-hazardous waste; and, To minimize and manage the risks and impacts associated with pesticide use. ESS3 enjoins the borrower to consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention measures in accordance with the mitigation hierarchy. The measures are expected to be proportionate to the risks and impacts associated with the project and consistent with GIIP, in the first instance the Environment, Health and Safety Guidelines of the Bank.

ESS3 is relevant for the project regarding energy and water use, air pollution and noise impacts during construction phases, construction waste, handling and disposal of hazardous chemicals and waste, and the disposal of end-of-life batteries containing hazardous materials during operation phase (see Annex II for a waste management plan template). The Generation of

hazardous wastes associated with Photovoltaic panels and used solar batteries will be a major issue. during the operation and maintenance if they were improperly disposed upon their end life and decommissioning. DARES will promote renewable energy related investments which will contribute to a net GHG emissions reduction. The ESMF includes mitigation and management measures to avoid and/minimize risks and impacts due to oil spills and improper disposal and management of used oil. Assessment of ESS3 related risks and impacts will be undertaken according to WBG General and sector specific ESH Guidelines (i.e., EHS Guidelines for Electric Power Transmission and Distribution) and GIIP

ESS 4 – Community Health and Safety. ESS4 addresses the potential health, safety, and security risks and impacts of Bank financed projects (resulting from project activities, equipment, and infrastructure) on project-affected communities. It places a responsibility on the Borrower to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable. This ESS addresses potential risks and impacts on communities that may be affected by project activities. Occupational health and safety (OHS) requirements for project workers are set out in ESS2. The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, including those who, because of their circumstances, may be vulnerable. The Borrower will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy.

ESS 4 is relevant. The rehabilitation and expansion of distribution networks and erection of poles may (GBV action plan is presented in the annex XXIII) potentially pose risks to communities (including SEA/SH/STD and COVID 19) falling into uncovered utility pole holes. These open and uncovered holes could create safety risks for vulnerable groups, including elderly, people with visual impairment, children, people with disability. To Further, all works and operations will be planned, designed and implemented to comply with the WBG EHS guidelines. In addition, given the FCV status of Nigeria and security challenges, the proposed project will leverage on existing state level security management plan developed under other projects like ACReSAL, SURWASH, NG-CARES etc. to manage security risk. This plan will be modified to the proposed project specific needs. This ESMF will assess exposure of communities to construction stage related traffic, accident, and health and safety issues, see annex for HSE ToR template. Site-specific ESIAs/ESMPs with mitigation measures are required for any proposed subprojects before construction or operation.

ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

The applicability of ESS5 is established during the environmental and social assessment described in ESS1.

The WB ESS5 takes care of situations where people will lose property, means of livelihood or

experience a change in their standard of living as a result of the implementation of a Bank financed project. This policy provides the guidance for the mode and schedule for payment of all compensations and recommends that due consultations be made with all stake holders of the project before, during and after project implementation with special attention to disadvantaged groups (women, children and the disabled) within the population.

The Project may require the acquisition of small amounts of land to install solar panels and associated equipment and, in case of components 1 & 3, could also involve moving encroachers or compensating for loss of access to assets. Since the specific investment locations and land acquisition needs are not known, the framework approach is also used to establish the procedures for compliance with ESS5. The Resettlement Policy Framework (RPF) for this project has been prepared and is disclosed as a separate document.

These activities are likely to result in land acquisition / displacement. Given that the locations of subprojects are not yet known at this stage of the project preparation, the project will update existing NEP Resettlement Policy Framework (RPF).. The updated RPF will facilitate ESS5 requirements under the project activities. The purpose of the resettlement framework for DARES is to clarify resettlement principles, organizational arrangements, and design criteria to be applied to subprojects or project components to be prepared during project implementation. Once the specific locations of subproject are identified and the necessary planning information becomes available, the framework will be expanded into Resettlement Action Plans (RAP) proportionate to potential risks and impacts of the project. While the project is not expected to entail major land acquisition and displacement, its activities that will cause physical and/or economic displacement, if any, will not commence until such specific plans have been finalized, approved by the Bank and, prompt compensation and resettlement assistance payments are made to Project Affected Persons (PAPs).

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. ESS6 recognizes that Bank-funded projects could negatively impact on biodiversity and that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development.

The Project will not finance activities that will adversely affect biodiversity conservation or sustainable management of living resources. This project will not lead to significant land conversion. However, for precautionary reasons, exclusion criteria relating to biodiversity / natural habitats will be developed and included in this ESMF to exclude impacts on critical habitats and avoid / minimize impacts on natural habitats. This ESMF, will be used to screen out subproject sites deemed to cause risks/impacts to areas of high biodiversity values, critical or sensitive natural habitats within project areas, protected areas, and endemic flora and fauna including protected animal or plant species. The screening process shall include identification of the types of habitats which will be affected and make consideration of potential risks and impacts on ecological function of the habitats at which PV Solar panels will be installed on specific within remote or rural areas. The ESMF (with embedded screening procedures) and Subproject environmental and social risk management instruments included provisions for biodiversity assessment (including bird collusion and electrocutions from the grid network rehabilitations), management and conservation measures to manage risks and impacts to any natural habitats consistent with the requirements of ESS6.

ESS 8: Cultural Heritage. ESS 8 recognizes the importance of cultural heritage (natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and

waterways, sacred mountains, sacred trees, sacred rocks, burial grounds, and sites) as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. It provides continuity in tangible and intangible forms between the past, present and future and reflects constantly evolving values, beliefs, knowledge, and traditions. The specific objectives of this ESS are to: protect cultural heritage from the adverse impacts of project activities and support its preservation; address cultural heritage as an integral aspect of sustainable development; promote meaningful consultation with stakeholders regarding cultural heritage; and promote the equitable sharing of benefits from the use of cultural heritage. The requirements of this ESS 8 will apply to all projects that are likely to have risks or impacts on cultural heritage, regardless of whether it has been legally protected or previously identified or disturbed. This will include a project which: Involves excavations, demolition, movement of earth, flooding, or other changes in the physical environment; (b) Is located within a legally protected area or a legally defined buffer zone; (c) Is located in, or in the vicinity of, a recognized cultural heritage site; or (d) Is specifically designed to support the conservation, management, and use of cultural heritage.

This standard is relevant to the project associated with chance finds of tangible and intangible cultural resources. The project will not finance project activities that will affect cultural heritage resources sites. The borrower shall avoid impacts on cultural heritage. When avoidance of impacts is not possible, the Borrower will identify and implement measures to address impacts on culture heritage in accordance with mitigation hierarchy (where appropriate, the client shall develop a cultural heritage management plan. An environmental and social screening procedure will be developed in the ESMF for identification of cultural heritage and assessment of tangible and intangible heritage in consultation with affected stakeholders. An environmental and social screening procedure will be developed in the ESMF for identification of cultural heritage and assessment of tangible and intangible heritage in consultation with affected stakeholders. A chance-find procedure, in line with national laws and regulations, will be articulated in the ESMF, in the event, contractors stumble on such chance finds during project implementation.

ESS9: Financial Intermediaries recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. The Bank is committed to supporting sustainable financial sector development and enhancing the role of domestic capital and financial markets.

This standard will be relevant for Component 1. Under this component the proposed project will support the development of at least 300-400 private sector led mini-grids (off-grid, under-grid and interconnected mini-grids) in target underserved and unserved clusters with potential productive loads; ultimately connecting 10 million people to electricity across Nigeria. An Environmental and Social Management System will be in place and documented prior to disbursement for each PFIs. Thus, the ESMS will be development prior to appraisal and will immediately continue to develop and submit an ESMS meeting the requirements of ESS9 for the Bank approval prior to commencement of project activities.

ESS 10: Stakeholder Engagement and Information Disclosure. This ESS places premium on open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. The specific objectives ESS 10 are to: establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, especially project

affected parties; assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance; promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life-cycle on issues that could potentially affect them; ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format; and, provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances.

ESS 10 is relevant to the project because of the project will engage diverse stakeholders at the project design, planning and project implementation stages. The Project will be guided by this standard in undertaking all project-related consultations and engagements given that this enhances the environmental and social sustainability of the Project. In line with this, a standalone Stakeholder Engagement Plan (SEP) has been prepared . The engagement will be held in languages suitable for the beneficiaries to understand and explain the opportunities for public consultation, provide a deadline for comment and feedback. The proposed project will leverage on the existing NEP Grievance mechanism to address the concerns and needs of beneficiaries. Given the GM for NEP was prepared under the operational policy, it will be revised to reflect the provisions of the ESF.

2.4.2. Other World Bank Standards including Health Safety & Environment Guidelines

The World Bank Group's Environmental, Health and Safety Guidelines are applicable to this project. They include general guidelines that are applicable to all projects as well as sector-specific guidelines for electricity. The relevant guidelines are: General EHS Guidelines and EHS Guidelines for Electric Power Transmission and Distribution.

These guidelines are available at:
http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines.

2.4.3. World Bank Disclosure of Information

Disclosure of this ESMF, like other Safeguard Instruments that would be prepared under this project (such as ESIA/ESMP/RAP/ARAP) would be done in line with the country's EIA Laws and the World Banks Policies. Disclosure would involve publications in national and state newspaper and under the guidance of the Federal Ministry of Environment. The newspaper publications will inform the general public on strategic locations where the ESMF will be displayed for the general public to make comments and contributions such as State Ministries of Environment, Federal Ministry of Environment and project locations. The ESMF will be displayed for the general public to make comments within 21 working days after which comments received shall be incorporated in the ESMF. The evidence of Newspaper Publications will be used to disclose the ESMF at the World Bank External Website.

2.4.4. Other International guidelines/conventions/treaties

Some of these guidelines/conventions/treaties to which Nigeria is a signatory are summarized below.

Table 2 International Conventions

S/N	TREATIES AND CONVENTIONS	DESCRIPTION	YEAR
1	African Convention on the Conservation of Nature and Natural Resources	The Nigerian Government is an important player in the international support for the protection of the environment. As such, the country is a signatory to some international laws and conventions, which are targeted towards conservation and protection of the environment in order to ensure sustainable development. Some International conventions and regulations that are applicable to the proposed Project include: The African Convention on the Conservation of Nature and Natural Resources was adopted in Algiers, Algeria, on September 15, 1968, and entered into force on June 16, 1969. The Convention stipulates that the contracting States shall undertake to adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interest of the people.	1968
2	Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol)	This calls on states to protect rights of women and girls, such as property rights, rights to a consensual marriage, protection against child marriage, widows' rights, inheritance rights, and protection against all forms of violence. Nigeria ratified this protocol in 2004 to address the historical discrimination and marginalization of women and girls, including GBV.	2004
3	Basel Convention on the Control of Trans-boundary Movement of Hazardous Wastes and their Disposal	The Convention was adopted on March 22, 1989 and entered into force on May, 1989. It focuses attention on the hazards of the generation and disposal of hazardous wastes. The Convention defines the wastes to be regulated and controlled in order to protect human and environmental health against their adverse effects.	1989
4	The United Nations Convention on Biological Diversity	The Convention was adopted in 1994. The objectives of the Convention include the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising out of the utilization of genetic resources.	1994
5	The Minamata Convention on Mercury	The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. The Minamata Convention was adopted in 2013 and entered into force in 2017. The international treaty is designed to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds by member countries.	2013
6	The United Nations Framework Convention on Climate Change	The Convention on Climate Change was adopted in 1992 during the Rio Earth Summit in Rio De Janeiro, Brazil, and entered into force in 1994 to limit Greenhouse Gas (GHG) emissions which cause global warming	1992
7	International Health Regulations	The International Health Regulations (IHR) is an international legal instrument that is binding on 196 countries across the globe, including all the Member States of World Health Organisation (WHO). This binding instrument of international law entered into force on 15 June 2007. The purpose and scope is "to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks and which avoid unnecessary interference with international traffic and trade".	2005

S/N	TREATIES AND CONVENTIONS	DESCRIPTION	YEAR
8	Declaration of the United Nations Conference on Human Environment	United Nations Conference on the Human Environment proclaims that "a point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences." The principles of this Declaration relevant to the proposed Project are summarized below: Principle 2: The natural resources of the earth, including the air, water, land, flora and fauna especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate. Principle 3: The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved. Principle 4: Nature conservation, including wildlife, must receive importance in planning for economic development. Principle 15: Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all. Principle 18: Science and technology, as part of their contribution to economic and social development, must be applied to the identification, avoidance and control of environmental risks and the solution of environmental problems and for the common good of mankind	
9	*International Labour Organisation (ILO): ILO-OSH 2001 – Guidelines on Occupational Safety and Health (OSH) Management Systems*	These guidelines call for coherent policies to protect workers from occupational hazards and risks while improving productivity. The guidelines present practical approaches and tools for assisting organizations, competent national institutions, employers, workers and other social partners in establishing, implementing and improving occupational safety and health management systems, with the aim of reducing work-related injuries, ill health, diseases, incidents and deaths. At the organizational level, the guidelines encourage the integration of OSH management system elements as an important component of overall policy and management arrangements. Organizations, employers, owners, managerial staff, workers and their representatives are motivated in applying appropriate OSH management	2001
10	Industry Codes and Standards; *International Electrochemical Commission (IEC*	The IEC Technical Specification 62257 series contains recommendations for small renewable energy and hybrid systems for rural electrification Projects. It outlines international best practice solutions to support energy access in developing countries across a range of technologies. The purpose of this series is to assist renewable energy project managers, engineers and system designers as well as operators to choose the right system for the right place and to design, operate and maintain the system.	

2.5 Gaps between Nigerian Legislation and World Bank Environmental and Social standards

The gaps between the triggered Nigerian current legislation and WB Environmental and Social standards as they relate to this project are summarized in Table 3 below. According to the ESRS, all of the ESSs except 7 are applies to the DARES project. These ESSs are considered in the Table 3

Table 3: Gaps between Nigeria's Regulations/ Policies and World Bank Environmental and Social Standards

Project Triggered Policies	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
ESS1 Environmental Assessment	National Environmental Impact Assessment (EIA) Act 1992, Clause 2 provides that public or private sector of the economy shall not undertake or embark on or authorize projects or activities without prior consideration of the effects on the environment. The act makes an EIA mandatory for any development project, and prescribes the procedures for conducting and reporting EIA studies. As part of the effective utilization of the EIA tool, the ministry has produced sectoral guidelines. Responsibility for monitoring of EIA activities lies with the National Environmental Standard Regulation and Enforcement Agency (NESREA) and State ministries of environment but these agencies lack the logistic capability to carry out the tasks assigned to it by the law	An Environmental Assessment (EA) is conducted to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision- making is improved through appropriate analysis of actions and of their likely environmental impacts. Any World Bank project that is likely to have potential adverse environmental risks and impacts in its area of influence requires an EA indicating the potential risks, mitigation measures and environmental management framework or plan.	Nigeria currently has a comprehensive framework for assessing and managing the environmental impacts of development projects. However, in comparison with the World Bank ESS1, it would appear that the Nigeria framework lacks the provision of clear requirements or guidance in the assessment of the impact of an activity on public health. In this case the policy of the bank prevails.
ESS2 Labor and Working Conditions	The EIA Act in consonance with the NESREA Act recognize the need for compliance enforcement of the provisions of international agreements, conventions and treaties on the environment and labor matters. These provisions bring the Nigerian EIA Act to par with the World Bank ESS2.	ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.	Essentially, there is no difference between the main framework of both policies.
ESS3 Resource Efficiency and Pollution Prevention and Management	The policies, standards, legislation and guidelines under the EIA Act in consonance with the NESREA Act set out compliance requirements to address water quality, environmental health and sanitation, including pollution abatement. The legislations provide enforce compliance with guidelines and legislations on sustainable management of the ecosystem, biodiversity conservation and the development of Nigeria's natural resources; The regulations seek to use the most appropriate means to prevent and combat various atmospheric pollution; and to address standards applicable to emission from any new mobile or stationary source which causes or contributes to air pollution and may reasonably be anticipated to endanger public health or welfare using appropriate means to reduce emission to permissible levels.	ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with GIIP.	Essentially, there is no difference between the main framework of both policies.
ESS4 Community Health and Safety	In consonance with the NESREA Act, Section 20(1), the EIA Act provides the specifications and standards to protect and enhance the quality of Nigeria's air	ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already	Essentially, there is no difference between the main framework of both policies.

Project Triggered Policies	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
	resources, so as to promote the public health, welfare and the natural development and productive capacity of the nations' human, animal, marine or plant life including, in particular, minimum essential air quality standards for human, animal, marine or plant health; and the control of concentration of substances in the air which separately or in combination are likely to result in damage or deterioration of the environmental and human health ;	subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.	
ESS5 Involuntary Resettlement	The basic legal framework for the acquisition of land in Nigeria is the Land Use Act 1978 as amended under the Amended Land Use Act of 2004, Chapter L5 under the laws of the Federation of Nigeria. The Part 1 of the amended Act 2004 vests all land within the urban areas of any Nigerian State in the Executive Governor of that state. Land within the rural areas of the state is vested on the Local Government. The Part VI, Section 29 of the law provides for compensation to the holder of any land title when such land is to be acquired for public purposes. For developed land, the Governor (in the case of urban areas) or Local Government (in the case of rural areas) may, in lieu of compensation, offer resettlement in any other place as a reasonable alternative accommodation and in acceptance of resettlement, the holder's right to compensation shall be deemed to have been duly satisfied. Although the Land Use Act is not strictly an Act for environmental protection, protection of the environment is one of the considerations which a holder of certificate of occupancy has to observe.	Key objectives of the World Bank's policy on involuntary land acquisition are to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; assist displaced persons in improving their former living standards, income earning capacity and production level, or at least in restoring them; encourage community participation in planning and implementing resettlement; and provide assistance to affected people regardless of the legality of land tenure. The policy covers not only physical relocation, but any loss of land or other assets resulting in relocation, or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood whether or not the affected people must move to another location. When the policy is triggered, a Resettlement Action Plan (RAP), must be prepared. An abbreviated plan may be developed when less than 200 people are affected by the project. In situations, where all the precise impacts cannot be assessed during project preparation, provisions are made for preparing a Resettlement Policy Framework (RPF). The RAP/RPF must ensure that all Bank's policy provisions detailed in ESS5 are addressed particularly the payment of compensation for affected assets at their replacement cost	Essentially, there is no difference between the main framework of both policies. Lands that would be acquired for this project shall be fully compensated for in accordance with the World Bank policy and principles. The Nigerian regulations while also lacking clear responsibility for monitoring of activities associated with compensations further lack the logistic capability for any agency to carry out the tasks assigned to it by the law. In this case the policy of the bank prevails.
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	The provisions under the Nigerian EIA Act seek for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general. To the extent of the compliance enforcement provisions, the Nigerian EIA Act and the World Bank ESS3 are similar.	ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. Biodiversity often underpins ecosystem services valued by humans. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services. Requirements related to ecosystem services are set out in ESS1. ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms	Essentially, there is no difference between the main framework of both policies.

Project Triggered Policies	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
		and their interactions with the nonliving environment. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance. This ESS also addresses sustainable management of primary production and harvesting of living natural resources.	
ESS8 Physical Cultural Resources	National Commission For Museums and Monuments Act of 1990, Chapter 242 seeks to protect and preserve any objects of archaeological interest wherever they may be found. Any person who discovers an object of archaeological interest in the course of operations permitted under section 19 of this Act shall notify the Commission.	The Bank seeks to assist countries to manage their physical cultural resources and avoid or mitigate adverse impact of development projects on these resources. This policy is triggered for any project that requires an EA.	No difference in framework. Responsibility for monitoring of activities and enforcement under this Nigerian Regulations is effectively lacking. In this case the policy of the bank prevails.
ESS9 Financial Intermediaries		This ESS requires for an FI to have an Environmental and Social Management Systems (ESMS) covering policy, procedures, organizational capacity and competence, monitoring and reporting and stakeholder engagement.	
ESS10 Stakeholders Engagement and Information Disclosure	The EIA Act in consonance with the NESREA Act recognize the need to create public awareness and provide environmental education on sustainable environmental management, promote private sector compliance with environmental regulations	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts.	Essentially, there is no difference between the main framework of both policies. Lands that would be acquired for this project shall be fully compensated for in accordance with the World Bank policy and principles. The Nigerian regulations while also lacking clear responsibility for monitoring of activities associated with compensations further lack the logistic capability for any agency to carry out the tasks assigned to it by the law. In this case the policy of the bank prevails.

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.

The Mini grid solar plants under the proposed DARES falls within category II according to the Nigeria EIA act. The guidelines for the Nigeria EIA Categories include:

- 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 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 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.

With regard to environmental assessment, the Bank classifies projects based on the risks involved, namely: High Risk, Substantial Risk, Moderate Risk or Low Risk. The appropriate risk classification for a project is based on consideration of the relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the project sponsor (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs. Other areas of risk relevant to the delivery of environmental and social mitigation measures and outcomes, include legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security.

The Bank requires that environmental and social assessment of subprojects irrespective of the designated classification, whether:
(a) High Risk subprojects; or,
(b) Substantial Risk, Moderate Risk and Low Risk subprojects, shall be carried out in accordance with the ESSs following the World Bank ESF. At the same time, the subprojects shall comply with the national laws and requirements.

The Nigerian EIA Act and the World Bank ESS1 are similar. The World Bank risk classification system 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 more stringent requirement shall apply. Thus for this ESMF, Nigeria's EIA requirements, and World Bank operational procedures were harmonized as much as possible, hence it is made responsive to the objectives of good practice. It is especially made responsive with regard to the followings:

- Early consideration of environmental and social issues (starting at the screening stage);
- Identification and early consultation with stakeholders;
- Prevention of adverse impacts through the consideration of feasible alternatives; and

Incorporation of mitigation measures into planning and design.

CHAPTER THREE: PROJECT ENVIRONMENTAL AND SOCIAL BASELINE

3.0. Environmental baseline data

The DARES will have a nationwide coverage, in this regard; this chapter presents a general overview of the environmental and social baseline of Nigeria; with a social baseline on general energy distribution and consumption rates based on previous studies and data. It is expected that the eventual and more elaborate environmental and social assessment studies to be undertaken will provide in detail, the specific and peculiar environmental and social baseline conditions for each project sites. Thus the project area of influence (which cuts across Nigeria) is divided into three main climatic regions: Tropical Rain Forest Region, Near Desert Region and Savannah Region.).

The Federal Republic of Nigeria is located on the west coast of Africa between latitudes 4.16 and 13.52 north and longitudes 2.40 and 14.32 east. It has a Southern coastline stretch of 853 km to the Gulf of Guinea of the Atlantic Ocean and has borders with the Republics of Benin to the west, Niger to the north, Chad to the north-east, Cameroon to the east and south-east. The total area of 923,768 km^2 comprises 910,768 km^2 of land and 13,000 km^2 of water. This is illustrated in Fig 3.1.

Fig 3.1 Map of Nigeria Showing 36 States and FCT (source: Nations Online Project)

The federated states of Nigeria are divided into Local Government Areas (LGAs). Presently, there are 774 LGAs in Nigeria. The main characteristics of the biological, physical, and socio-economic environment of Nigeria are summarized as follows:

3.1 Physical Environment

3.1.1 The country has a humid sub-tropical climate, which is variable: equatorial in the south, tropical in the centre, and arid in the north. The River Niger which runs through the entire country enters the country in the northwest and flows southward through tropical rain forests and swamps to its delta in the Gulf of Guinea. The River Benue, originates in the Adamaoua Massif in northern Cameroon and flows westward for 1,400 km until it meets the Niger River about 450 km above the delta, near the city of Lokoja.

3.1.2 Rainfall

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

3.1.3 Temperature

Nigeria's climate is characterized by relatively high temperatures. The average annual maximum ranges from 35^0C in the north to 31^0C in the south; the average annual minimum is from 23^0C in the south to 18^0C in the north. However, on the Jos plateau and the eastern highlands, altitude makes for relatively lower temperatures, with the maximum not more than 28^0C and the minimum sometimes as low as 14^0C.

3.1.4 Wind

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

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

3.1.5 Ambient Air Quality

Generally, air quality in the Nigeria complies with regulatory standards. However, variations have been noticed in major industrial cities like Lagos, Ibadan, Aba, Kano, Port Harcourt and Kaduna, and Agbara section of Ogun state. The Federal Ministry of Environment (FMENV) has established national standards (Table 7) for gaseous emissions against which air quality parameters monitored are compared to ascertain its quality, while Table 6 shows air quality classifications based on TSP values.

Table 4: Nigerian Ambient Air Quality Standards

Air Pollutants	Emission Limits
Particulates	250 ($\mu g/m^3$)
SO_2	0.1 (ppm)
Non-methane Hydrocarbon	160 ($\mu g/m^3$)
CO	11.4 ($\mu g/m^3$) or 10 (ppm)
NO_X	0.04-0.06 (ppm)
Photochemical Oxidant	0.6 (ppm)

Source: FMEnv, 1991

3.1.6 Geology

Nigeria's land mass is made up of two main rocks, Precambrian basement rocks which covers about two-thirds of the country's landmass and Sedimentary rocks of Cretaceous about half of the country. Other minor formations are the Tertiary Volcanics, Tertiary sediments etc. The Precambrian basement rocks consisting of gneisses, migmatites, schist, and various metamorphic rocks and granites. Figure 3.5 below shows some details of the geology of Nigeria.

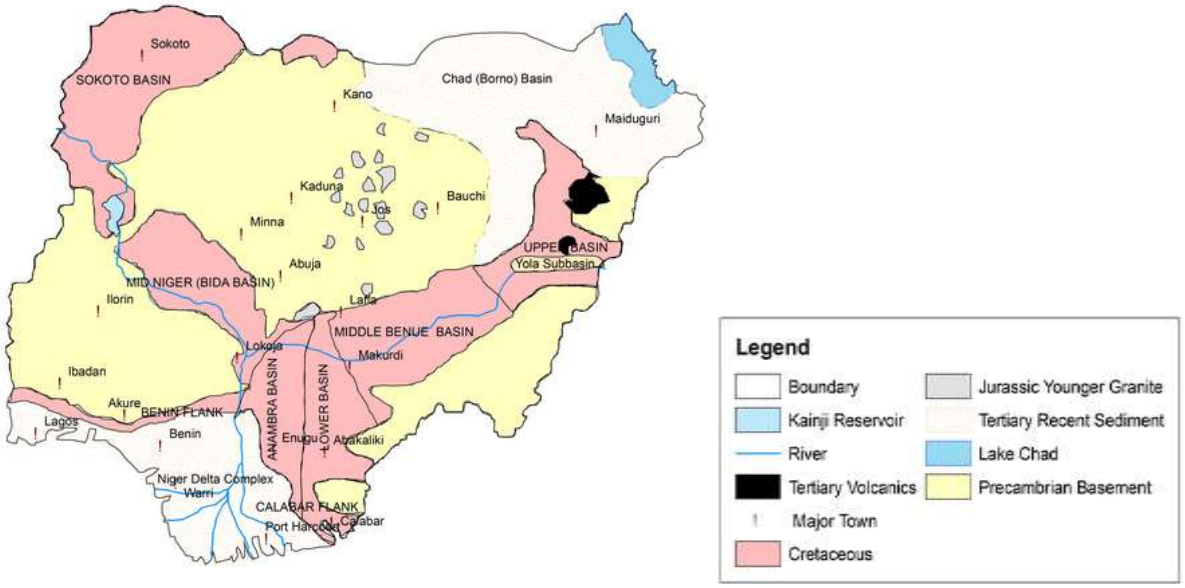


Figure 3.5: Nigeria Geological Map

3.1.7 Topography

The topography of Nigeria has varying landforms and is dominated by plains, generally less than 610m above mean sea level. The eastern border with the Republic of Cameroun is lined by an almost continuous range of mountains, which rise to about 2,419m at Chappal Waddi, Taraba state - the highest known point in Nigeria. In the North, the Jos Plateau rises abruptly from a general level of about 609.5m in the Hausa Plains to an average level of some 1,219m, but reaches 1,781.6m in Shere Hills. The area west of the River Niger is dominated by the plain, which rises gently from the coast northwards 'to the area of crystalline rocks where inselbergs rise abruptly above the surrounding plains. The Idanre Hills, the highest point of these inselbergs, rises to about 981m above sea level. In general, the land surface of the country

could be classified into three broad physical units or major relief features namely: the plains; the highlands; the troughs and the river valleys.

3.1.8: Soil Characteristics

The broad pattern of soil distribution in the country reflects both the climatic conditions and the geological structure: heavily leached, reddish brown, sandy soils are found in the south, and light or moderately leached, yellowish-brown, sandy soils in the north. The nutrient content of the soils is linked to the underlying geology. Over a large part of the northern and south western areas of the country, the geological structure is that of old crystalline basement complex rocks. These are highly mineralised and give rise to soils of high but variable nutrient status. On the sedimentary rocks found in the southeast, northeast and northwest of the country the soils are sandy and less variable but are deficient in plant nutrient. They are highly susceptible to erosion. The nature of the soil will also influence the environmental fate of mercury contamination in soils in different parts of the country

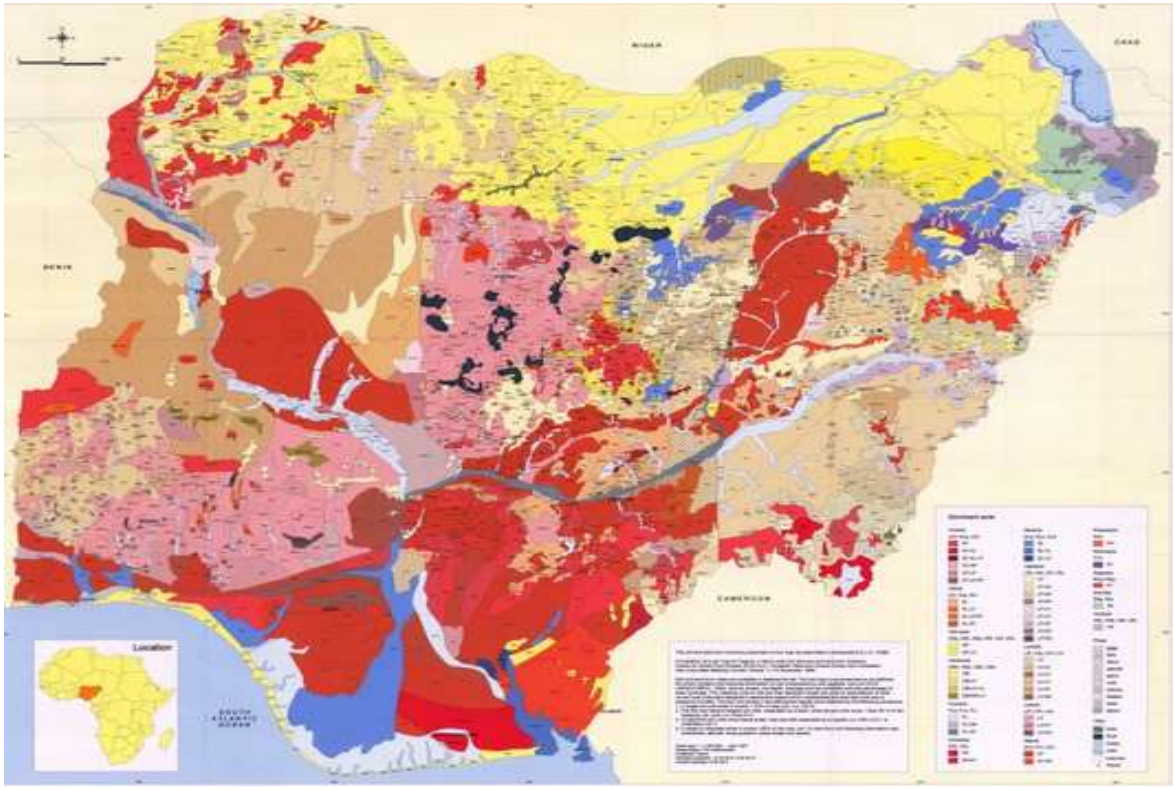


Figure 3.6: Nigeria Pedological Map

3.1.9: Surface Water

There are many rivers in Nigeria but the two principal river systems are the Niger – Benue and the Chad. The Niger River, the largest in West Africa, flows 4,000 km from Guinea through Mali, Niger, Benin, and Nigeria before emptying into the Gulf of Guinea. The Benue River and largest tributary flows 1,400 km from Cameroon into Nigeria, where it empties into the Niger River. The country's other river system involves various rivers that merge into the Yobe River, which then flows along the border with Niger and empties into Lake Chad.

Generally, the water quality in the rivers of Nigeria is very good. The average electrical conductivity in the main rivers ranges between 48-65 Umhos/cm^2, although higher values have

been reported in swamps and floodplains with levels of 100-150 Umhos/cm^2. Total dissolved solids (TDS) concentration in the rivers is about 100mg/l while pH is less than 6.5. These rivers are also low in nutrients, with average nitrogen content of 0.32mg/l and a total phosphorous content of 0.1 mg/l. The records indicate water of high quality when compared FMENV limits.

3.2: Ground Water/ Hydrogeology

The major aquifers in Nigeria are Basement aquifers, Sedimentary basins, Volcanic plateau, and River alluvium. There are eight major regional aquifer systems, 30 local and minor aquifers and 36 aquicludes, aquitards, and aquifuges in Nigeria. These eight mega regional aquifers have an effective average thickness of 360 m; with a range of 15–3,000m. The yields from the major aquifers range between 1.25 and 32 l/s whereby the sedimentary basins generally form the most prolific aquifers.

3.2.1 Vegetation

Savannah and forest are the predominant types of vegetation in Nigeria as shown in Figure 3.3. The savannah vegetation stretches from the central parts of Nigeria to the extreme northern parts. It is divided into marginal.

i. Sahel savannah: in the North-Eastern borders
ii. Short grass Sudan savannah: stretching from upper western borders to the North-Western borders and
iii. Woodland/Tall grass Guinea Savannah (lying below the short grass savannah and covering the central states and parts of the eastern region of the country).

The tropical forest vegetation covers the remaining southern portion of the country and is divided into three types: i) Rain Forest with tall trees, ii) Fresh water swamp consisting of both fresh and saltwater swamps and iii) Mangrove forest which is made up of mangrove vegetation.

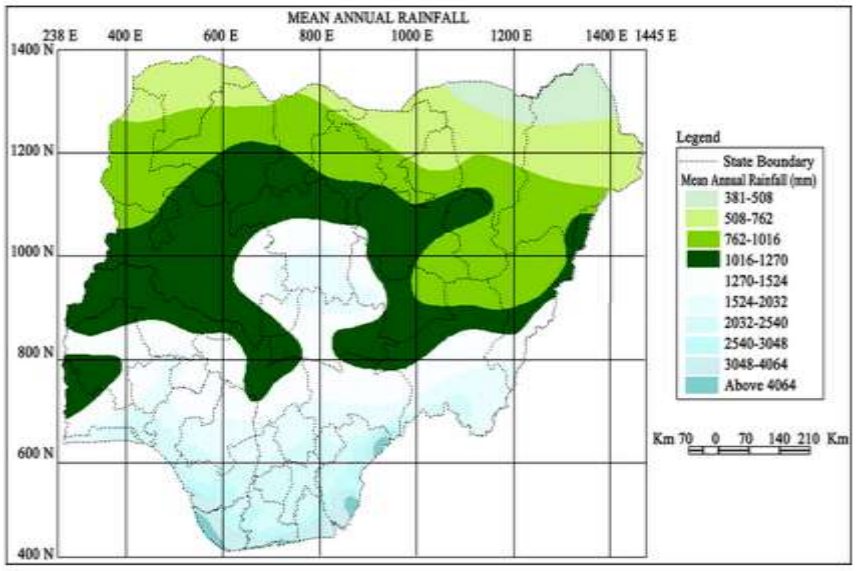


Figure 3.2.: Annual Rainfall Distribution Map of Nigeria

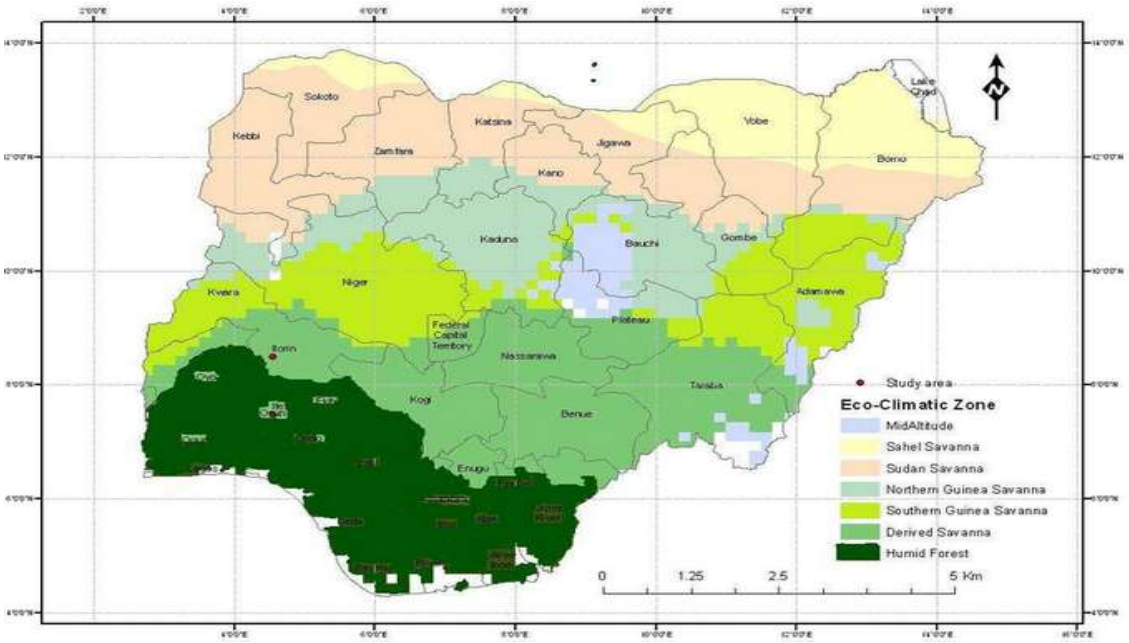


Figure 3.3: Vegetation Distribution Map of Nigeria

3.3 Socio Economic Baseline

The country's population is estimated at 182 million (National Population Commission, 2017). It is the most populous country in Africa. About seventy percent (70%) of the population is rural but the rate of urbanization is high with significant rural-urban migration. There are more than 500 spoken dialects, and well over 250 ethnic groups, some numbering fewer than 10,000 people, while Hausa, Ibo and Yoruba are the major linguistic groups. English is the official language and lingua franca of the country.

Nigeria has the largest electricity access deficit in absolute terms of any country in the world, and the trend is worsening. As of 2021, 60 percent of Nigeria's population had access to electricity, leaving over 85 million people without access (NBS survey data). Thus, half of unelectrified Nigerians spend a large part of their income on alternative sources such as gasoline and diesel gensets to meet their energy needs. An estimated 22 million diesel/gasoline fueled generators power about 26 percent of total households and 30 percent of micro, small and medium-sized enterprises (MSMEs) in Nigeria, with an estimated capacity of about 20GW. In 2018 alone the Federal Government of Nigeria (FGN) spent US$ 2 billion on subsidizing petrol consumption for these generators, while ordinary Nigerians spent around US$ 12 billion on their purchase and operation.

A summary of country profile data for the Federal Republic of Nigeria is given in Table 3.1 below.

Table 5: Summary of Profile Data for the Federal Republic of Nigeria

Capital Abuja **Area** 923,768 km^2 (2014) **Land boundaries** 4,047 km (Benin 652 km, Cameroon 773 km, Chad 87 km, Niger 1,497 km) **Coastline** 853 km

Climate Equatorial in the south, tropical in the centre, arid in the north
Natural gas, petroleum, tin, gold, iron ore, coal, limestone, niobium, lead, zinc
Land Use *Arable land:* 33.02%, *permanent crops:* 3.14%; *other:* 63.84%
(2005)
Irrigated land 2,820 km2 (2003)
Natural hazards Periodic droughts; flooding
Environmental issues Soil degradation; rapid deforestation; urban air and water pollution; desertification; chemical and hazardous waste pollution, oil pollution - water, air, and soil; loss of arable land; rapid urbanization
Geography note The Niger River enters the country in the northwest and flows southward through tropical rain forests and swamps to its delta
in the Gulf of Guinea
Population 182,200,000 (NPC, 2017)
Administrative divisions: 36 States and I Federal Capital Territory
Age structure *0-14 years:* 42.79%, *15-24 years:* 19.48%, 25-54 years: 30.65, 55-64 years: 3.96, *65 years and over:* 3.1% (2016 est.)
Growth rate 2.7% (2010-2015)
Infant mortality 71.2 deaths/1,000 live births (2016 est.)
Life expectancy 52.6 years - *female:* 52.0- years *male* (2010-2015)
Fertility rate, total (live births per woman) 5.7 children born/woman (2010-2015)
Ethnic groups More than 250 ethnic groups; Hausa and Fulani 29%, Yoruba 21%, Igbo (Ibo) 18%, Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5%
Religions Christian, Muslim and indigenous beliefs
Languages English (official), Hausa, Yoruba, Igbo (Ibo)
Literacy *Definition:* age 15 and over can read and write, *total population:*
59.6% - *male:* 69.2%, *female:* 49.7% (2016 est.)
Independence 1 October 1960 (from UK)
GDP Purchasing power parity: $469 billion (2015 est.)
GDP real growth 4% (2015 est.)
GDP - per capita Purchasing power parity - $6,400 (2015 est.)
GDP composition *Agriculture:* 20.3%, *industry:* 23.6%, *services:* 56.1% (2015 est.)

Source. NBS

CHAPTER FOUR: THE ENVIRONMENTAL AND SOCIAL IMPACTS ASSOCIATED WITH THE DARES PROJECT

4.1 Introduction

This Section documents the possible impacts that are likely to result from the project following interactions between the subproject components and the environmental elements. The method of impact identification and evaluation is also given in this Section. It should be noted that impacts identified are preliminary in nature. The potential for occurrence in each subproject shall be ascertained during further stages of project design and implementation.

Any subproject under the DARES Project, whether it is simple and small, or large and complex has some level of impacts on the environment and socioeconomics. The environmental and social impacts may be beneficial or adverse, but the main objective of impact identification especially with emphasis to the DARES Project is to identify and prioritize areas that are likely to be adversely affected by the implementation of subprojects and proffer suitable mitigation measures. Environmental and social impacts, by definition, imply an alteration of environmental and human conditions or creation of new sets of adverse or beneficial environmental and social consequences caused by the action under consideration.

4.2 Type of Impacts Envisaged Under the DARES

The proposed DARES project is envisaged to trigger both positive and negative impacts. Thus, for purpose of this ESMF, the proposed activities and identified impacts that are likely to be associated with the DARES subprojects have been classified under four (4) phases of the project lifespan. The phases include:

- Pre-construction phase
- Construction phase
- Operation Phase
- Decommissioning

4.3 Potential Positive and Adverse Impacts of the Project

The project is envisaged to have a range of positive environmental and social impacts. Some of these are a function of the objectives of the project, while others are a function of the way in which the project is designed to meet its objectives. The improvements through REA projects will allow economies of scale and specialization, widen opportunities, expand trade, integrate markets, strengthen effective competition, enhance social interaction, and eventually increase real income and welfare of the university communities. These effects will, in general, provide real benefits to most, if not all, socioeconomic groups, including the poor, covering both genders.

Some of the benefits (positive impacts) associated with the project include:

- Increased financial and technical collaboration between projects affected states and the PMU.
- Improved livelihood enhancing activities
- Improvement in the eco-balance.
- Increase in urbanization
- Enhance sustainable environmental development and practices through the use of renewable energy

Reduced lighting costs to project beneficiaries. Electricity access will replace kerosene lamps which are expensive to operate. Kerosene is costly both for low income households that buy it, and for governments that subsidize it. In parts of Africa, for instance, kerosene costs make up 10-25% of household monthly budgets according to a report by Lighting Africa market trends report 2013. Comparing to these costs, the consumption electricity bills seem to be cheaper than using kerosene for lighting significantly. Therefore, this project means greater savings on the part of the households.

Positive expected impact on poverty alleviation. With more affordable and stable electricity in the otherwise off-grid areas, the beneficiaries will be engaging in income generating activities and businesses that requires power supply. Hence improving their economic status.

Provision of employment. This project will have a positive impact on both direct and indirect employment levels in the country although the bulk of them will be on temporary basis during construction of the infrastructure. These job opportunities will be made available to the locals thereby reducing unemployment in and around the construction areas. In addition, this will translate into incomes at the household levels which will applicable other spending and demand in the local economy.

Increase in business/commerce during and after the construction work. Another positive impact of the project involves local material sourcing mainly sale of materials for use in the project. Some of these can be expected to be sourced locally and the rest through importation. Therefore, the project will generate new income revenues for the local population in harvesting and transportation of sands, ballast and gravel. The new income revenues received will create demand for other goods and services causing a trickledown effect to the entire economy.

Upscaling electricity access to the poor. A World Bank poverty assessment found that the national poverty rate in Nigeria declined from 46 percent in 2004 to about 36 percent in 2013. However, due to population growth between 2004 and 2011, the total number of poor, estimated at about 64 million people in 2013, did not decline. The off-grid areas are disadvantaged due to lack of national grid. Hence the need for this project, which targets unserved or underserved rural areas and poor households.

Community development programs and social inclusion. This project aims at increasing access of electricity to off grid communities. This is in line with the tenets of social inclusion, which the World Bank defines as the process of improving the terms for individuals and groups to take part in society. Further, Social inclusion aims to empower poor and marginalized people to take advantage of burgeoning global opportunities. It ensures that people have a voice in decisions that affect their lives, and that they enjoy equal access to markets, services and political, social and physical spaces.

Improved health statistics with increase in the life span. According to the 2009 population census, access to electricity stood at 23%, while 31% used lantern lamps and 39% were using tin lamps for lighting. This indicates that 70% of the population was using kerosene for lighting. This poses health problems as reported by World Bank report 2008 on the Welfare of Rural Electrification. The report notes that kerosene lamps emit particles that cause air pollution; these are measured by the concentration of the smallest particles per cubic meter (PM10). But these particles do not disperse, so burning a lamp for four hours can result in concentrations several times the World Health Organization standard. The health risks posed by this indoor air

pollution mainly include acute lower respiratory infections, but also low birth weight, infant mortality, and pulmonary tuberculosis.

Additionally, available data suggest that insufficient illumination (low light) conditions can cause some degree of eye strain and reading in these conditions over long periods of time may have the potential to increase the development of nearsightedness (myopia) in children and adults. This project will result in many families replacing kerosene lamps for lighting with electricity there-by reducing disease burden at the family level and on the government.

Improved education and certification in solar engineering & benefits to education. Access to electricity at the household level and schools will create opportunities for children to study. For example, children from households with electricity have an advantage because they have more time for study and doing homework in the evening as opposed to children from households without electricity. This benefit will in the end translate to better results. Additionally, children in households with electricity can also access T.V. which gives them an advantage of benefiting from education programs being aired through such communication channels. Appropriate lighting through electricity will provide school going children in homes an opportunity to study after household chores especially girls who have to assist their mothers in preparing dinner. The benefit is amplified in Component 3, which targets public universities and teaching hospitals**.** This would enhance learning in renewable energy leading to certification.

Improved standard of living. The implementation of this project will result in connecting about 2.5 million beneficiaries to the off-grid electricity. Access to electricity will change the standard of living of the people as they can use domestic appliances like iron boxes, fridges, television sets, washing machines to mention but a few. Use of electricity for lighting implies that the people will not be exposed to smoke arising from use of kerosene lamps which predisposes people to respiratory diseases.

Increase in social interactions within the campuses. There will be enhanced security in the targeted counties arising from well-lit social, commercial and individual premises. With the implementation of the project, the level of security will improve across the county. This is as a result of more security flood lights which helps keep off opportunistic crimes and gender based violence.

Communications. Access to electricity will lead to improved communication for the beneficiaries. This will be enabled by the fact that charging of mobile phones will be easier and cheaper. Access also to mass media like radio and T.V will provide opportunity for the households to access a wide range of information which is useful for decision making. Some of information beneficiaries receive include: information on markets, farm inputs, livestock & crop management and local affairs, nutrition, diseases, investments and entertainment among others.

Gender Considerations. Electricity is a basic service especially for lighting but is still a luxury for many rural women and men. Access to modern electricity will go a long way towards alleviating the daily household burdens of women, giving them more time, improving their health and enhancing their livelihoods. Available literature on gender and energy suggests that providing electricity to communities and homes will promote gender equality, women's empowerment, and women's and girls' access to education, health care, and employment. Indeed, most gender benefits of the project will occur because women tend to spend more time

at home, are responsible for household chores that can be carried out more productively with electricity, and because certain tasks are culturally defined as women's work.

The first and strongest impacts of the project shall occur via lighting and TV. Electricity will definitely displace more expensive candles and kerosene lamps, thereby reducing indoor air pollution, fire, burn risk and providing higher quality light. Women and girls will benefit more from air pollution of kerosene lamps because they spend more time in the kitchen. Lighting and television will improve access to information, the ability to study, and extend the effective working day. This is more so because children can have extended time of study.

Women will also benefit more due to access of information, especially on health and nutrition, since they also spend more time at home. The project will also enhance security in the rural areas as most homes will be lit up, a benefit that is more appreciated by women.

Employment. In many countries, electrification is linked to an increase in women's employment. For example, studies in South Africa, Nicaragua and Guatemala show that women are 9-23 percentage more likely to gain employment outside the home following electrification. The time savings delivered by electric power and the ability to carry out domestic activities in the evening due to lighting, frees up women's time to participate in paid work.

Health and Well-Being. A reduction in kerosene lamps as a result of an electric light source helps to improve indoor air quality. And, newfound access to television programming increases health and family planning knowledge. In Indonesia, exposure to television increased the use of modern contraception by approximately 12 percentage points. In addition, anecdotal evidence from the Economic Community of West African States (ECOWAS) region suggests that electrifying clinics for lighting and refrigeration of medications has an especially beneficial impact on maternal health outcomes.

Gender Norms and Women's Agency. Beyond the portrayal of new norms around fertility, evidence from several states across India highlights the role television plays in decreasing the acceptability of intimate partner violence and son preference. Women also report increased autonomy, measured by factors such as the ability to go out without permission and the participation in household decision making. Energy access projects can also shape new community decision making and leadership models, for example, if local electrification committees are set up women and men can be given equal opportunities to run for key positions to voice community priorities and realities, thereby increasing women's voice in decision making. Additionally, electrification can help to increase safety through public lighting, which is particularly important for the socio-physical mobility of women and girls.[13]

Table 6 below shows the potential environmental and social impacts of the DARES project

Table 6: Potential Environmental and Social Impacts and Sources

Project Phase	Potential Impact Source	Potential Impact
Pre-construction phase	Land acquisition from members of the communities before the construction phase.	• Negative perception and discontent expressions by members of the community.

[13] Taken from: Schomer, I. et al. January 2017 (Conference Edition). Mini-Grids and Gender Equality: Inclusive design, better development outcomes. ESMAP. Washington D.C.: World Bank Group https://www.climateinvestmentfunds.org/sites/default/files/mini-grids_and_gender_equality.pdf

Project Phase	Potential Impact Source	Potential Impact
	Destruction of structures, economic trees and cash crops	• Loss of people's properties and farmlands; • Decrease in accruable income. • Hostile and unfriendly community attitudes. • Unresolved issues with lands acquisition extending into the construction phase.
	Gender based violence/Sexual exploitation and abuse/Sexual harassment (GBV/SEA/SH)	• Degraded physical and emotional health of those who have experienced it. • Acute injuries and chronic pain, • Gynecological problems, depression, trauma and substance abuse. • Limit access to educational and economic opportunities, • Early marriage and adverse experience • Fear of physical or sexual abuse lead to high school dropout rates, • Curtailing of educational advancement and future economic opportunities. • Stigma and rejection associated with rape and other forms of sexual abuse.
	Waste from cleared vegetation	▪ Depletion of landfill resources; ▪ Air pollution and climate change effects; ▪ Sedimentation and soil erosion, ▪ Disruption of waterways and drainage corridors
Construction Phase including civil, mechanical and electrical works and installation of PV panels and associated components	Excavation, grading, compaction, filling and other civil works.	▪ Excavation and compaction activities through construction works will alter the soil properties including loss of valuable top soils,
	Construction waste generation and disposal including excavated soil, general refuse, garbage, inert construction materials, metal scraps/ electronic wastes, concrete waste, food waste, and used packaging materials	▪ Depletion of landfill resources; ▪ Air pollution and climate change effects; ▪ Sedimentation and soil erosion, ▪ Disruption of waterways and drainage corridors ▪ Improper disposal of Scrap metals could leak toxins like lead, mercury, and arsenic into the soil and water supply, harming plants, animals, and humans alike

Project Phase	Potential Impact Source	Potential Impact
	Construction activities on or nearby agricultural lands/pastures impacting land use	• Loss of agricultural land (arable land), pastured or orchards if not properly managed • air pollution due to the emission of particulate matter, nitrogen oxides, and volatile organic compounds.
	Air pollution from fugitive dust and emissions from construction vehicles, plant and equipment. Dust is generated by excavation and earth moving operations. Exhaust emissions occur from poor maintenance of plant and equipment or over revving of engines	• Impairment in the health of local residents of the community especially cases of respiratory infection and respiratory disease symptoms. • Incidence of ocular disease symptoms. • Presence of suspended particulates exceeding acceptable limits • Complaints from members of the community. • Nuisance to residents and other sensitive receptors • Indirect effects on surrounding population and ecosystems
	Noise and Vibration from construction activities	• Complaints of disturbance from members of the community. • Damages of structures overtime as a result of the vibration caused by the heavy machineries.
	Toxicity to aquatic life resulting from spills of chemicals and hazardous materials during construction activities that reach the stream through surface loss	• Contamination of local waterways causing harm to plants, fish and wildlife, and degrading water quality and quantity;
	Disruption of infrastructure functioning in community near project areas	• Community health and safety at risk from infrastructure updating and expansion including potential for loss of water, electricity and access to roads
	Gender based violence/Sexual exploitation and abuse/Sexual harassment (GBV/SEA/SH due to labor influx)	• Complaints of violations from members of the community. • Degraded physical and emotional health of those who have experienced it. • Acute injuries and chronic pain, • Gynecological problems, depression, trauma and substance abuse. • Limit access to educational and economic opportunities, • Early marriage and adverse experience

Project Phase	Potential Impact Source	Potential Impact
		• Fear of physical or sexual abuse lead to high school dropout rates, • Curtailing of educational advancement and future economic opportunities. • Stigma and rejection associated with rape and other forms of sexual abuse.
	Water Quality changes resulting from construction works, seepage of fuel from powered machineries into the watershed, discharge of untreated effluent into water bodies or effluent from workers in the campsites.	• Change in the water colour. • Change in pH levels. • Eutrophication • Increased cases of disease, illnesses (especially waterborne diseases) • Odour • Alteration of aquatic life.
	Impact on flora and fauna resulting from mobilization of equipment and construction activities including dam construction and rehabilitation such as grading, dredging, filling, excavation, etc. Weed invasion/ proliferation of opportunistic species (weeds & pests)	• Reduction of the richness in the number of available living species including protozoans • Reduction in the number of native wildlife. • Alteration of various forms of plant and animal life • Presence of Wildlife species within community dwellings and corridors.
	Transportation & Traffic impact: Existing travel patterns will be negatively impacted during the construction phase of the project in the states.	• Complaints from members of the community. • Increase in noise and air pollution. • Increase in roadside hazards and accident.
	Accidents occurring during the construction phase as a result of increased vehicular movements.	• Increase in total number of accidents during the construction phase.
	Increased crime rates, Social Stress & Disruption Impact Source: • labour influx for civil work activities. • Human Governance. (Corrupt practices)	• Crime rate and dispute amongst members of the communities. Including Sexual Abuse and Exploitation and Sexual Harassment (SEA/SH) • A collapse of the Laws, rules and norms within the community. • Increased anti-social behaviour.
	Human Displacement Impact Sources including: Civil works	• Relocation of people and their livelihoods

Project Phase	Potential Impact Source	Potential Impact
	Archeological & Cultural Loss Impact Sources	• Loss of valuable archaeological and historical artifacts • Complaints from members of the community
	Aesthetics Impact Source: Construction works.	• Diminished Aesthetic levels.

Operational Phase	Roles and responsibilities (REA and private sector)		
	REA	**Private sector**	**Other key stakeholders**
Component 1: Solar Mini grids			
1. Setting applicable E&S requirements	Sets applicable E&S requirements and includes them in the grant application process for mini grid developers (including applying (a) ***Exclusion Criteria for Mini-Grid Developers, SHS Companies, and Contractors*** and (b) ***Exclusion Criteria for Mini-Gird and Power Generation Sites***). Requires mini grid developers to prepare Environmental and Social Management Systems (ESMS) to manage E&S risks across subprojects each developer will design and implement. Integrates E&S requirements in legal agreements with mini grid developers.	**Mini grid developers** incorporate applicable E&S requirements in their institutional Environmental and Social Management System (ESMS) that will ensure developers manage E&S risk consistently in subprojects.	N/A
2. Screening for E&S risks and impacts	Validates / verifies developer process and risk categorization	Determine key E&S risks and impacts of individual mini grids, applies ***Exclusion Criteria for Mini-Gird and Power Generation Sites,*** and assign E&S risk category (I or II)[14]. *Any subproject requiring resettlement must be category I.* Submits list of category I sites to REA before construction for verification.	N/A
3. E&S due diligence and risk management	Conducts site visits for all category I mini grids and for a sample selection of category II mini grids.	Prepare and integrate into design: • For category I, ESIA, as well as RAP and LRP as required. • For category II, ESMP • For both, Stakeholder Engagement Plan (SEP) and grievance mechanism	World Bank reviews and provides clearance for ESIAs,[15] RAPs and LRPs as required. Federal Ministry of Environment (FMoE) provides

14 Corresponding to high or medium / low risk.
15 First several ESIAs to ensure quality and consistency.

			environmental clearance, as required
4. Monitoring	Conducts monitoring activities during mini grid construction and operation (sample, risk-based checks and site visits)	Conduct self-monitoring activities in line with their ESMS, maintain monitoring records	Communities participate in monitoring, as per SEP.
5. Reporting	Reviews annual E&S reports from developers and conducts follow-ups. Maintains records of developer screening, ESIAs, ESMPs, RAPs/ LRPs, other relevant documents	Prepare annual E&S reports to REA. Report any incidents or accidents within several days of occurrence	N/A
6. Independent E&S audit	Engages independent E&S auditor	Provide all relevant reports and documents to the independent E&S auditor	Independent E&S auditor conducts annual review of developers' E&S performance.
Component 2: Standalone Solar Systems for Homes, Enterprises and Farms			
1. SHS company grant application	Incorporates E&S requirements (ESMS, clean track E&S record, applies ***Exclusion Criteria for Min-Grid Developers, SHS Companies, and Contractors***) into application and grant agreements. Conducts review of SHS companies' ESMS	**SHS companies** prepare elements required for ESMS in line with REA's requirements. Submit statement of current practice for battery disposal/ recycling	N/A
2. SHS company operations	Conducts sample performance checks, as needed	Remain in good compliance to all relevant requirements. Participate in battery disposal/recycle program	N/A
3. Monitoring	Oversees (under TOR for general monitoring of SHS companies) monitoring E&S compliance by independent company.	Conduct self-monitoring, provide relevant documentation	N/A
1. Monitoring	Monitors contractor E&S performance before and during construction	Self-monitors against ESMPs	REA in monitoring process
2. Independent E&S audit	Engages independent E&S auditor	Provide all relevant reports and documents to the independent E&S auditor	**REA**

4.4. Identification of E&S Risks and Impacts by Project Component

Land acquisition that may result in involuntary resettlement / economic displacement (including potential issues with voluntary land donation practices) and waste management (in particular, used batteries) are the two top risks identified due to the potential to manifest themselves prominently and frequently across a large number of small subprojects developed and managed by the private sector. Stakeholder engagement has also been identified as key to project's success. Key E&S risks and impacts by project component are presented in Table 4.3

Table 7. Key Environmental and Social Risks by Project Component

Component/ risk issue	1. Solar Hybrid Mini grids for Rural Economic Development	2. Standalone Solar Systems for Homes, Enterprises and Farms	1.1. Power Systems for Interconnected Mini Grid
1. Land acquisition/ resettlement	It is expected that land will be acquired for mini grid sites using the following options: Purchase; Lease or Voluntary Land Donation / VLD[16] (from individuals, families, or communities). Involuntary resettlement is expected to be small scale and limited. Economic displacement is possible (e.g. cutting of economic trees). During stakeholder consultations, it was reported that communities are likely to appreciate the mini grid sub-projects and may offer to voluntarily donate land as required; nevertheless, the risk remains that people may be displaced, and land use changed especially in unforeseen situation. In addition, it is not inconceivable that land donors may change their mind about donations or pressure be brought to bear on people to donate land against their will. Against this background, it is noted that VLD may be abused by developers. As such, VLD by communities to mini-grid developers will not be encouraged except (a) it meets the criteria set out in the VLD guidelines (Annex XIII) and (b) the process is verified and approved by the REA prior to finalization of the donation.	Not expected for this component.	Major risk is expected to be encroachment on land that may be used for interconnected mini-girds that is allocated and traditionally used by communities. The main concern would be REA's capacity for conducting stakeholder engagement and preparing Resettlement Action Plans (RAPs) and/ or Livelihood Restoration Plans (LRPs), where needed.

[16] Voluntary land donation is strictly defined in international practice as the ceding of a property by an owner who is: a) fully informed; and b) can exercise free will, i.e., can refuse to sell or to donate. "Fully informed" means that the owner has complete information regarding the proposed activity and its impacts, its land requirements and its alternate activity sites, as well as his or her rights to compensation. The owner has also been provided with sufficient time to consider his or her disposition of the property, and the owner has knowingly rejected the right to renege on his or her initial decision. "Free will" means that the owner can reject the possibility of giving up his or her land.

Component/ risk issue	1. Solar Hybrid Mini grids for Rural Economic Development	2. Standalone Solar Systems for Homes, Enterprises and Farms	1.1. Power Systems for Interconnected Mini Grid
2. Waste management	Risks associated with disposal of lead-acid batteries and lithium batteries used in mini-grids will present a challenge for the project's long-term sustainability.[17] Disposal of used solar panels may also present a risk in the longer term.	Long-term implications of the increased number of the energy storage units (mostly containing lithium-ion batteries). This impact requires a strategic solution and REA will be requested to put in place a program for battery disposal/recycling, in which SHS distributors will play a role.	Same as component 1.
3. Labor and working conditions	Poor OHS practices among developers exist, although not expected to be high among international developers working in Nigeria.	Labor and working conditions practices are generally adequate and shall be maintained. Weak labor practices (e.g. use of child labor) may be possible but not expected to be frequent or severe.	There is risk of poor OHS practices among EPC contractors. It must be ensured that labor conditions comply with Nigerian regulation and international good practice.
4. Community health and safety issues	General construction impacts, as well as moderate labor influx, can be expected and may be associated with security and gender-based violence concerns.	Installation of SHS generally has low risk of community health and safety concerns.	Same as component 1.
5. Biodiversity impacts	Bird and bat mortality is noted as a possible risk due to perception of solar panels as water bodies (collisions). Due to small size of mini grids this risk is not expected to be high.	Not expected.	Bird and bat mortality is noted as a possible risk due to perception of solar panels as water bodies (collisions).

[17] This will present an issue once batteries reach its recycling age. It has been estimated that should Nigeria reach its target of installing 30,000 MW of solar PV by 2030, about 280 million used batteries will end up needing disposal/ recycling (assuming average battery life of 3 years).

Component/ risk issue	1. Solar Hybrid Mini grids for Rural Economic Development	2. Standalone Solar Systems for Homes, Enterprises and Farms	1.1. Power Systems for Interconnected Mini Grid
	Impacts on sensitive natural habitats are possible where mini grids are constructed in such areas. Initial screening done through electricity demand surveys indicate this is not to be a frequent case.		
6. Resource consumption (water)	Stress on local water use and supply is possible due to the need to wash solar panels frequently.	Not expected.	Same as component 1.

4.5. Estimated Probability and Severity of E&S Risks and Impacts

The potential negative E&S impacts associated with the sub projects are summarized in Table 4.4. Beyond the mitigation measures discussed below it will be important to adopt waste management principles (Source reduction, reuse and recycling) at all time so as to meet the World bank relevant ESS including; 1, 2, 3, 4, 5 & 6.

Table 8: Potential E&S Risks and Impacts and Their Magntitude

Environmental Receptor/ Medium	Comment	Impact Indicators	Project components impacts are relevant for	Impact Level
Physical				
Air	Ambient air quality within the Project site and the surrounding environment	Increase in concentration of gaseous and particulate pollutants	1.1 and 2	Moderate to low
Noise	Ambient noise level within the Project site and its surrounding environment	Increase in ambient noise level; day and night-time disturbance; communication impairment, etc.	1 and 2	Moderate to low
Soil	Soil environment within the Project site and its Area of Influence (AoI)	Changes in physical, chemical and biological properties of the soil; loss of soil ecology and fertility; soil erosion, etc.	1.1 and 2	Moderate to low

Environmental Receptor/ Medium	Comment	Impact Indicators	Project components impacts are relevant for	Impact Level
Groundwater/ aquifers	Underground water resources in the Project's AoI	Decrease in underground water/aquifer reservoir level; groundwater contamination	1.1 and 2	Moderate to low
Landscape/ topography	The geomorphological landforms and terrain of the Project site and its surrounding environment	Alteration in drainage pattern; changes in landscape	1.1 and 2	Moderate to low
Biological				
Terrestrial flora and habitats	Plant species (vegetation) within the Project site and its AoI	Loss of terrestrial flora; introduction of new species	1.1 and 2	Moderate
Terrestrial fauna	Terrestrial fauna within the Project site and its surrounding environment	Loss of terrestrial fauna; involuntary migration	1.1 and 2	Moderate
Waste				
Battery disposal	End of life battery disposal remains the major risk	OHS impacts on workers handing battery recycling, uncertified facilities, inadequate waste disposal practices	1, and 2	High
Socio-economic Environment				
Land use	Existing land use within the Project site and its AoI	Loss of existing land use	1.1 and 2	Moderate
Land acquisition/use resulting in involuntary resettlement and/or loss of livelihoods or access to economic resources.	Land acquisition resettlement	Loss of asset; Loss of Access to assets; and loss of livelihood	1.1 and 2	High
Visual impacts	The aesthetic quality of the Power Plant on the surrounding visual catchment	The compatibility of the Power Plant with the character of the locality; visual nuisance through reflection of panels	1.1 and 2	Moderate
Demography	Demography of community in the Project's AoI	Changes in demography, gender ratio, age distribution, socio-economic	1.1	Low

Environmental Receptor/ Medium	Comment	Impact Indicators	Project components impacts are relevant for	Impact Level
		structure, etc. of the local community		
Utilities	The existing utilities (e.g. power supply, water, sewer services, etc.) in the Project's AoI	Changes in existing utilities; potential damage to public utilities	1.1 and 2	Moderate
Infrastructure	The existing infrastructure such as road, waste handling facilities, etc. within the Project's AoI	Potential damage to road infrastructure; road traffic and accidents; increased pressure on waste management facilities	1.1 and 2	Moderate
Employment/ income	The employment situation in the Project's AoI	Opportunities for local employment; changes in income level	1 and 2	Moderate
General public/ project communities	Labor influx grievances, and GBV	Increase in the demand for basic services due to temporary influx of workers. Increased crime (including prostitution, theft and substance abuse) to increase in proposed sub project areas as influx of people increases. Increased risk of communicable diseases (including STI/ HIV/AIDs)	1and 2	Moderate
Other (Health and Safety)				
Construction workers	Health and safety of construction workers.	Accident, injury, fatality, exposure to nuisance (dust, noise), fire, etc.	1.1 and 2	Moderate
Workplace health and safety	Health and safety of employees involved in the Power Plant operation.	Accident, injury, fire, explosion, etc.	1.1 and 2	Moderate
General public / communities	Health and safety of the general public	Accident, fire, explosion, (construction camps) etc.	1.1 and 2	Moderate

4.6. Capacity Assessment of Key Project Implementers

Specific E&S risks for each project component are mainly linked to processes and capacity of key stakeholders for E&S risk management. Capacity assessment aspects that may contribute to risks for each component are presented in Table 9

Table 9: Identifying E&S Risks Due to Low E&S Management Capacity

Component 1	Key stakeholders	Capacity and Risks
1.1. Solar Hybrid Mini grids for Rural Economic Development	Mini grid developers	Mini grid developers are at varying levels of capacity regarding E&S standards that they are applying to preparing their projects. International companies, especially those that receive funding from development institutions (e.g., GIZ) and foundations are at a higher level and more advanced and proactive in their approach as a result of the E&S requirements that come with the funding. However, domestic mini grid developers are relatively unaware of such requirements and will need major effort in building their capacity to comply with the World Bank requirements that REA will need to implement as part of the program. Major differences in how developers approach site selection and interactions with communities must be bridged to ensure that communities can consistently benefit from electricity provision in an inclusive and sustainable manner. These range from full engagement, securing broad community support, reaching agreements with communities on how land would be acquired for the mini grids, and proactively conducting RAPs/ LRPs, ESIAs and/ or ESMPs as part of project design to full reliance on the government processes for land expropriation and no E&S studies or exploring alternative site locations to reduce potential E&S risks and impacts.
1.2 Standalone Solar Systems for Homes, Enterprises and Farms	SHS companies / distributors	The core issue with the SHS component is the potential long-term implications of the increased number of the energy storage units (containing batteries) that need to be recycled. Additionally, labor and OHS practices of SHS companies would need to be compliance with the Nigerian regulations and World Bank EHS guidelines and good practice.
1. TBD		TBD

To ensure that private sector is adequately equipped to fulfill its role in E&S assessment and risk management for the project, REA shall provide guidance and support to the private sector in the form of (i) assistance with developing internal E&S systems and capacity, including training; (ii) required adequate reporting from companies engaged; (iii) risk-based oversight

function that will help allocate REA's resources for review, monitoring, and supervision. REA will ensure that budget is available for these activities.

CHAPTER FIVE: E&S IMPACT MITIGATION
5.1 Introduction

Mitigation measures involve avoiding of impact altogether, minimizing the impact, rectifying the impact and gradual elimination of impact over time. Mitigation measures are grouped into three: physical, socio-cultural and socio-economic.

Physical measures relate to issues of project siting, re-vegetation and preventive measures like bush clearing, erosion, sedimentation and pollution control and good construction/farming practices, waste management, and application of Environmental Guidelines for Contractors.

Socio-economic measures will include education and awareness, hygiene and sanitation training, rules and regulations, institutional support (including skills training), and recruitment of qualified personnel while socio-cultural measures could include allowing limited and monitored access to restricted areas for cultural reasons where applicable. The mitigation measures for the public health issues; explore options to accommodate crew off site and avoid camps and in absence of that, educate the crew about preserving vegetation, provide decent temporary sanitation facilities like toilets. Use local and regional labor as much as possible and provide HIV/AIDS awareness training to the workers and the community, provide guidelines on local culture, behavior and social life to the workers and create walk ways and plant grass where necessary.

The mitigation measures for use of hazardous waste include: use off-site treatment methods and only deliver poles ready for fixing, proper disposal of any hazardous materials found on site; use protective gear during work; appropriate disposal of construction materials and rubbles in certified disposal sites; and fill in and close all latrines and septic systems. The mitigation measures for use of heavy plant and equipment. e.g., tippers for material delivery, include: minimize the use of heavy trucks; provision of drainage channels to guide surface run offs; introduction of mulching to minimize effects on soil erosion; set protocols for vehicle maintenance on site and not dump any oil around the site.

Key Gender Actions

Enhancing gender equality in energy delivery contributes to Nigeria's growth and poverty reduction strategies. The National Gender Policy of the Federal Ministry of Women Affairs and Social Development focuses on female empowerment and a commitment to gender mainstreaming. In addition, a Gender Focal Point has been established in the Federal Ministry of Power, Works and Housing, located within the Sustainable Development, Climate Change, Gender and Human Rights Unit, which ensures compliance with various measures, e.g., the National Gender Policy.

Based on the findings of the gender gap analysis[18] and other country-level targets, the following key actions are a core part of the operation.

[18] Connections-varied gender gaps exist in connection rates with wealth being one proxy for access rates: Overall 63% of female-headed households versus 54% of male-headed households have an electricity account (45% of rural female-headed households have electricity versus 32% of rural male-headed household and 79% of urban female-headed households have electricity versus 85% of urban male-headed households) and 40% of those with electricity are concentrated in the highest wealth quintile.

Component 1 (mini grids). Given how closely women's gender responsibilities within the home are connected to their under-recognized role as energy consumers and producers (as well as energy entrepreneurs), mini grid operators have an incentive to enhance women's participation in mini-grid operations in order to increase sustainability of operations. Depending on the scope of the mini grid, entry points related to the business model will be explored by REA together with the WB and the mini grid operators, including the market analysis which can help collect sex-disaggregated data, the marketing and community outreach activities and training programs that will be delivered at various levels. Actions will also focus on potential win-win interventions that could be adopted, such as the provision of key social services such as lighting at markets or transport stops to increase safety.

Given the gender gaps identified in agro-processing activities, which is found particularly in sub-Saharan Africa, attention will be paid to enhancing the productive uses of energy. Applications of electricity in rural areas such as milling, grinding, carpentry, food processing, phone charging and tailoring help save the time and labor burden of men and women. However, women's access to resources and community participation are usually more restricted and limited, and their agricultural contributions often go largely unrecognized.

In the studies related to component 1, specific focus will be placed on exploring how energy services can reduce the time and labor burden of women and ways to enhance and create income generating opportunities for women, e.g., through entrepreneurship or enhanced productivity and agro-processing.

Sub-Component 2 of Component 1 (Standalone Solar Systems). The adoption, use, and scaling of clean technology solutions are central to the energy access challenge. In these processes, women need to be seen and engaged as valuable partners along the entire value chain—in the design, marketing, sales, and after-sale services.

Under the technical assistance activities for the project, solar providers that do not currently integrate gender considerations across their operations will be offered the opportunity to access earmarked grants to address gender gaps in job opportunities to both men and women in the areas of marketing, sales and after sales services for solar technologies. The technical assistance will also include looking at consumer finance issues and the overall supply chain to ensure equitable benefit sharing around decision making, skills and attainment of solar systems at the community level through solar provider's business approaches.

Gender-Based Violence (GBV) Prevention and Response: The GBV related risks under the project are not expected to be substantial but these considerations have been embedded in the ESMF, as well as instruments to be developed by private sector entities (mini grid developers, contractors). Capacity will be increased through a GBV clinic and other related activities focused on enhancing prevention and response to violence both at the subproject and at the institutional level.[19]

[19] The focus will be concentrated on two aspects: 1) at the project activities level related to energy operations e.g. contractors, beneficiaries and communities and 2) at the client level focused on strengthening institutional aspects e.g. staff capacity, HR aspects/policies and safe and ethical reporting of GBV. Additionally, emphasis will be placed on identifying and partnering with key stakeholders e.g. such as UN Women, UNFP etc. to support the prevention and response to GBV.

Gender Data and Monitoring and Evaluation: Given the limited sex-disaggregated data available in the sector, attention will be paid to male and female-headed households' and businesses access to electricity by mini-grids and stand-alone solar, especially in the context of rural areas where a gender gap could possibly arise. The following actions have been identified to track sex-disaggregated data related to the household and business connections:

a) **Application Form**: Application form for connecting to the grid and off-grid energy services should require applicants to identify whether they are a male- or female-headed household or businesses/ enterprise.

b) **Pre-Electrification**: Ensure that pre-feasibility studies for electrification conducted should gather and present information about the target population by the gender of the head of household and business.

c) **Post-Electrification:** Validate if the final profile of the connections made by the selected contractor, reflects the gender of the household head/business head prevalent in the community as recorded in the completed feasibility studies. The task will also involve collecting, monitoring, and reporting sex-disaggregated data regarding beneficiaries for the project indicators.

Communication and Consultation: As part of connection awareness activities, additional consultative meetings should be held with women and female-headed households/businesses to explain electrification procedures and safety practices and answer specific questions, which are unlikely to be raised in a larger, mixed group. Standard Terms of Reference (ToR) for feasibility studies for electrification must require the consultant to gather and present information about the target population by the gender of the head of household and business.

5.2. Main E&S Challenges and Approach to Mitigation

E&S risks at the level of individual subprojects are limited in number and magnitude. However, complexity of project design and capacity considerations contribute to the elevated E&S risk profile. The three project components have substantial differences in their design, technologies used and scope. Components 1 that involve development of solar mini grids and power systems are comparatively riskier than Component 2, which involves SHS sales and installation.

Success of E&S risk management during project implementation will depend on REA's ability to adopt an approach that fully integrates it into REA's overall project management processes. Through this approach, REA is expected to be able to effectively manage risks associated with an emerging flow of hundreds of small mini grids, as well as integrate relevant considerations into SHS companies' operations and effectively manage EPC contractors E&S performance for university power systems. Key E&S challenges and approach to their mitigation are presented in Table 10

Table 10: Key E&S Challenges and Mitigation

S/N	Challenges	Approach to Mitigation
1	Decentralized project design with a large number of small subprojects prepared by private sector implementing entities	Mini grid developers are expected to develop and maintain an effective Environmental and Social Management Systems (ESMS) and procedures for self assessment, managing and monitoring risks and impacts of the construction and operation of beneficiary solar off-grid companies. The preparation of an ESIA and ESMP requirements based on E&S risk rating of proposed sub-project activities, detailed and step by step E&S responsibilities for key players for each project component

S/N	Challenges	Approach to Mitigation
2	Land acquisition, resettlement, livelihood restoration	A stand-alone Resettlement Policy Framework (RPF) has been prepared in accordance with the Bank ESS5. The RPF outlines the resettlement process in terms of procedures for preparing and approving Resettlement Action Plans (RAPs), institutional arrangements, likely categories of affected people, eligibility criteria and categories, compensation rates, methods of valuing affected assets, community participation and information dissemination, Grievance Redress Mechanism and effective monitoring and evaluation.
3	Lack of awareness on E&S risks and impacts (communities, SHS customers, universities)	Sensitization and dialogue via various methods of citizen and stakeholder engagement. Preparation of Stakeholder Engagement Plan and GRM will assist to identify, inform, educate, empower and collaborate with the various stakeholders. GRM will help to get feedback from various stakeholders, such as public universities and teaching hospitals and PAPs before during and after implementation.
4	Lack of capacity among private sector implementing entities	Training for mini grid developers, SHS companies and other responsible government agencies at all levels of Government.
5	Lack of recycling facilities	Development of a waste management plan impacts during construction phases, construction waste, handling and disposal of hazardous chemicals and waste, and the disposal of end-of-life batteries containing hazardous materials during operation phase(See annex VIII).

5.3. Approach to E&S Risk and Impact Mitigation

The proposed mitigation measures and/ or options and guidelines have been designed to avoid, minimize and reduce negative environmental and social impacts and these are provided in Table 11

Table 11: Proposed Impact Mitigation Measures

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
Project design and Planning Phase				
1.	Discrimination in labour recruitment and poor working conditions	• Implement provisions in LMP • Avoid child labour • Follow the labour laws	Developers	Throughout project lifecycle
	Exclusion of vulnerable individuals/ beneficiaries	• Clear selection criteria • considerations for targeting and differentiated treatment for groups women, persons with disabilities, youth, beneficiaries from remote areas.	PMU	Pre-construction stage
	Site selection for works without adequate consideration for E&S risks and impacts	• Screen any proposed subproject in accordance with the Environmental and Social Management Framework (ESMF) prepared for the Project	PMU	Pre site specific/preconstruction stage (3 months)
	Preparatory Phase			

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
	Occupational health & safety	• Workers/surveyors should wear appropriate PPE such as reflective jackets and safety boots. • Use warning/caution signs to alert on coming vehicles of the presence of workers.	Developers	Throughout project lifecycle
2.	Unwillingness/ to adopt E&S measures and disputes over land	• Ensure adequate consultations at the local/traditional levels to confirm ownership and obtain free, prior, and informed consent from landowners. • Ensure proper acquisition and documentation of land for the project. • Put in place an effective grievance redress mechanism. • Prepare and implement RAP per provision of ESS5 and project RPF • Replace lost assets via compensating them at replacement cost • Restoring livelihood	PMU/ Developers	Throughout project life cycle
Construction Phase				
3.	Loss of vegetation and impacts on flora and fauna	• Limit vegetation clearance to the width of the trenches. • Allow regrowth of vegetation in per-urban areas after construction works. • Burning should not be used for vegetation clearance along major highways prior to trenching. • Tree planting as a way of replacement of the cleared vegetation/trees within the area probably in a public institution like schools.	Developers	2 months
4.	Impacts to soil and sediment transport	• All concrete mixing will be undertaken on impermeable plastic lining to prevent contamination of the surrounding areas.	Developers	Re-vegetation (2months)
5.	Generation and disposal of waste	• The contractor should develop and implement a waste management plan during the construction phase. (See sample WMP included in the ESMP annex II) • Excavated soil should be reused for backfilling. • Concrete debris should be collected and disposed at approved dumpsite. • Scrap metals will be collected for recycling in blue coloured waste receptacles for non-hazardous wastes • Hazardous wastes shall be stored in a manner that prevents the commingling or contact between incompatible wastes, and stored in properly labelled closed containers for evacuation by third party waste contractor • Plastic waste such as used polythene bags and drinking water sachets should be temporarily collected in bins on site and disposed of at approved dumpsites.	Developers	Throughout the project life cycle. 3 months at every cycle
6.	Occupational Health & Safety (OHS) issues	• The contractor should adopt a health & safety policy which should be implemented during the construction works.	Developers	Throughout project life cycle

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
		• All active construction areas should be marked with high visibility tapes to reduce the risk of accident involving pedestrians and vehicles • Prepare an emergency response plan for works. • Experienced dedicated personnel should be to manage and oversee the OHS aspects of the project. • Training/induction should be provided for all workers. • Proper supervision and monitoring should be ensured at site. • Provide first aid kits on site and train supervisors on administering first aid. • Appropriate PPE should be provided for workers and its use enforced.		
7.	Public safety and traffic issues due to labour influx, GBV/SEA due to labour influx	• Sensitize the public, especially traders within the RoW of the upcoming works prior to construction activities. • Organize works into sections and complete each section before the next section to ensure trenches are covered within the shortest possible time. • Cordon off all trenches and excavations with caution tapes and use warning signs at vantage points to indicate ongoing construction works. • Prevent entry of unauthorized persons to the construction site. • Engage staff of Traffic Agency to direct traffic to reduce traffic congestions. • Where necessary in extreme cases, provide alternative routes during road diversions with the assistance of the Nigeria Police Force or the Road Safety Corps. • Organize awareness creation and sensitization for workers and the public on prevention of HIV/AIDS and other sexually transmitted diseases. • Engage experienced drivers and machine operators and provide training especially for less experienced drivers/operators. • Ensure that all covid-19 precautionary measures are duly observed by both workers and the public accessing the facility.	Developers	Throughout project lifecycle
8.	Sanitation and hygiene	• Provide bins for temporary collection of litter (including polythene bags, drinking water sachets, etc.) for disposal at approved dumpsites. Provide toilet facilities for use by workers at every site.	Developers	
9.	Persons and properties affected by land acquisition or restrictions on land use	• Engage affected persons prior to construction works to discuss and agree on affected property and reinstatement works. Free, prior, and informed consent should be obtained before construction begins. • All affected properties should be reinstated immediately prior to the construction works to their original or improved state and in the process	PMU, Developers	3 months

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
		obtain photographs of all affected and reinstated properties (before and after status) for evidence. • In cases where affected crops are affected, appropriate compensation should be paid. • Implementation of the project's RPF and site-specific RAPs • In cases of Voluntary land Donations, compile a report of the process as well as associated records and documents be prepared for Mini grids prior to commencement of civil works		
10.	Impacts from visual intrusion	• Reinstate all trenched areas to their original or improved state. • Proper housekeeping should be ensured at the construction sites. • All waste that cannot be reused should be collected and properly disposed of at an approved dumpsite.	Developers	5 months post construction
11.	Dust and noise nuisance	• Use dust abatement techniques such as wetting ground surfaces and untarred roads, covering soil delivery trucks and limiting operations during windy periods. • Ensure delivery trucks and other vehicles reduce speed on untarred roads to reduce airborne dust. • Ensure engines of vehicles/trucks and earth moving equipment are switched off when not in use. • Install portable barriers to shield compactors thereby reducing noise levels • Use road worthy vehicles and ensure regular maintenance of vehicles, equipment, and machinery to reduce noise. • Keep work within working hours of the day.	Developers	2 month
12.	Disruption of utility service	• Liaise with utility service providers and telecommunication companies with service lines within the RoW to prevent the destruction of their lines.	Developers	3 weeks
13.	Fire risks	• Educate workers and the public on the effects of fire on the project. • Prevent entry of unauthorized persons to construction sites through the use of caution tapes. • Provide fire extinguishers at construction sites. • Provide fire emergency contact numbers at construction sites. • The contractor should prepare and implement a fire preparedness/emergency plan.	Developers	2 weeks
14.	Conflicts/public agitation	• Continuously sensitize the public on the construction works and the availability of the GRM throughout the construction period. • Consult and seek the free, prior, and informed consent of affected persons before construction works.	Developers	Term of project

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
		• Reinstate any affected property immediately to its original or improved state. • Provide alternative routes where necessary to ease impact on road users. • Engage staff of the Road Safety Corps to direct traffic to avoid traffic congestion.		
15.	Disruption of livelihoods	• Consult affected persons on suitable times to carry out construction works which should be factored into the scheduling of construction works. • Sensitize affected traders on the schedule of construction works. • Reinstate affected properties immediately after deploying the intervention at that section. • Help traders who may have to temporarily move their wares and stores. And provide livelihood restoration for loss of income in accordance to the RPF/RAP/LRP • Consider undertaking certain construction activities on weekends (Sundays) when commercial activities are less intense	PCU, Developers	5 months
16.	Chance finds/ cultural heritage and archaeological interest as well as on sociocultural norms	• Identify cultural heritage resources and existing ecologically sensitive areas and avoid them as much as practicable. • Any antiquity found during the construction phase will be made known as required. • Where the observance of traditional and cultural norms about restricted noise making during festivals will conflict with the timelines of the sub- projects, the PCU will engage the traditional authorities for exemptions if possible.	Developers	2 months
	Water Quality	• The contractor should develop and apply measures for waste management to reduce risks to water bodies in the surrounding. • Proper supervision and monitoring should be maintained during construction activities.	Developers	# months
Operational Phase				
17.	Occupational health & safety	• The operator should develop and implement an Environment, Health and Safety (EHS) Plan as stand-alone document or part of the ESMP both for construction and operation. • The operator should adopt a health & safety policy including an emergency response plan, which should be implemented. • Health & safety induction should be carried out for all new employees and periodic training conducted for all staff.	Developers	Throughout project life cycle

No.	Potential impact	Mitigation Measures	Responsible	Time Frame
		• Cordon off maintenance sites with caution tapes and use warning signs to alert the public of ongoing maintenance works. • Proper supervision and monitoring should be ensured during maintenance activities. • Provide first aid kits on-site and train supervisors on administering first aid. • Provide health insurance for all staff. • Appropriate PPE should be provided for workers and its use enforced.		
Decommissioning Phase				
18	Generation and disposal of waste	• E-waste management plan to be prepared that account for safe end-of-life disposal of equipment from solar installations • Wastes segregation onsite, and non-reusable/recyclable wastes disposed of through an accredited third-party waste contractor		

A summary of waste stream associated with the DARES project and mitigation measures is shown in table 12 below.

Table 12: Summary of Wastes Stream associated with the proposed DARES Project and Mitigation Measures

Waste Stream	Sources	Waste Generation Phase Construction (C), Operation (O), Decommissioning (D)	Mitigation measures
General rubbish, refuse, and putrescible wastes (food wastes)	Wood splinter, domestic waste, food packs, used bottles	C, O, D	On-site waste segregation; disposal of non-reusable waste through a third party waste contractor approved by the REA
Cleared vegetation	During site clearing and preparation	C	Composting, collection for biomass fuel
Scrap metals	Used tubular and casings, used iron rods	C, O, D	Scrap metals will be collected for recycling.
Excavated materials	Foundation works	C, D	Excavated materials generated during foundation works will be used for back-filling. Excess excavated spoil will be stockpiled and reused as part of materials for construction of plant buildings.
Damaged/expired PV panels	PV modules	C, O, D	Return to the manufacturer for recycling using the EPR model
Expired inverters	Electrical installation	O, D	Return to the manufacturer for recycling using the EPR model
Damaged/expired Batteries	Power generation	O, D	Return to the manufacturer for recycling using the EPR model
Sanitary waste	Workers	C, O, D	Periodic evacuation of content of the septic tank by AEPB accredited third party waste contractor.

5.4 Mitigation Measures for Other Associated E&S Issues

Gender. Women and children play a very active role in farming activities generating income and that's in addition to women performing household duties. Women in these underserved and unserved rural areas are often left alone for long periods while their husbands, brothers and adult sons move away for jobs. Hence, it is important women in affected should receive special attention and support to maintain their sources of livelihood and production patterns.

Firewood remains the most often used means for domestic cooking in Nigeria leading to high level decimation of our women due to firewood smoke which is more dangerous than cigarette smoke. Women and other people with heart or lung diseases, children and older adults are the most likely to be affected by particle pollution exposure. However, even healthy people may experience temporary symptoms from exposure to elevated levels of particle pollution as a result of firewood smoke inhalation leading to:

- Aggravated asthma
- Premature death especially those that are highly exposed to this fume.
- Greenhouse Emission leading to climate change.

At the sub project level, gender analysis should be part of the social assessment and the analysis will be based on findings from gender specific queries during primary data collection process and available secondary data. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits and opportunities. Based on the specifics, interventions could be designed, and if required, gender action plans can be prepared.

Climate Change & Green House Gas Emissions. Nigeria submitted its Intended Nationally Determined Contributions to the United Nations Framework Convention on Climate Change (UNFCC) in November 2015. It is pertinent we realize that women and households are central to any national plan to mitigate carbon emissions and deforestation. Therefore, there is a need for holistic and well thought out plan, which DARES represents, aiming to provide clean, efficient electricity thereby contributing to eradicating energy poverty, whilst bringing considerable health, developmental and environmental benefits.

The DARES would facilitate moving to low carbon energy sources and move to non-fossil energy usage that will enhance a reduction in CO_2 emissions.

The DARES, when fully implemented, can mitigate deforestation, one of the major causes of global warming. Moreover, it can help reduce indoor and outdoor air pollution with its attendant health consequences. The DARES is majorly of renewable sources with no soot and low NO_2 a principal ozone depletion gas.

Moreover, recycling of Lithium-Ion Batteries (LIBs) and other batteries reduces greenhouse gas emissions (GHG). Thus, for effective and best environmental practices it will be essential that end of life batteries from the subprojects are recycled within Nigeria instead of being shipped elsewhere, as this would save on carbon dioxide (CO_2) emission, which is a major GHG.

CHAPTER SIX: ESMF IMPLEMENTATION AND MONITORING PLAN

6.1. Objective of Monitoring

This section sets out requirements for the monitoring of the environmental and social impacts of the DARES sub-project activities. Monitoring of environmental and social indicators will be mainstreamed into the overall monitoring and evaluation system for the project. Monitoring and evaluation is primarily required to ensure proper and timely implementation of environmental and social mitigation measures identified in the planning stage, based on the ESMF.

The objective of monitoring is to:

- Ensure proper and timely implementation of environmental and social interventions proposed in this ESMF and other relevant documents to be prepared based upon the ESMF such as the ESIA/ESMP.
- Alert project authorities by providing timely information about the success or otherwise of the environmental and social management process outlined in this ESMF in such a manner that appropriate decisions can be made to improve upon the process or avert any adverse impact.
- Make a final evaluation to determine whether the mitigation measures incorporated in the technical designs and the ESMP have been successful in such a way that the pre-project environmental and social condition has been restored, improved upon or is worse than before and to determine what further mitigation measures may be required.

This section sets out requirements for the monitoring of the implementation of this ESMF and the environmental and social impacts to be associated with the project. Monitoring of environmental and social indicators should be mainstreamed into the overall monitoring and evaluation system for the project.

6.2. Types of Monitoring Required

6.2.1. Compliance Monitoring

The following activities should be conducted to ensure compliance with the recommendations of the ESMF and subsequent ESIA/ESMP Study:

1. As part of the planning stage, ensure that relevant permits are obtained for specific subprojects.
2. Final designs should be completed and submitted to PIU
3. Confirm that all the design changes and design mitigation measures recommended by the ESIA/ESMP study have been incorporated into the final detailed design documents
4. During contract negotiations, confirm that the designs and working methods proposed by the contractors have taken into account the environmental and social considerations recommended in the ESIA/ESMPs

5. Following completion of the detailed designs, confirm that all mitigation measures recommended by the ESMF and confirmed by the ESIA study have been incorporated into the appropriate contract documents prior to signing.
6. During construction, confirm on a regular basis that all the agreed working conditions and procedures, regarding various environmental and social considerations, are followed through satisfactorily.
7. During construction and upon completion of construction, ensure that all requirements regarding clean up and reinstatement have been satisfactorily met; and
8. During the operation of the project, ensure that all the mitigation measures recommended in the ESIA/ESMPs forms part of the functions and mandate of the institution responsible for the management and operation of the project facilities.

6.2.2. Monitoring of Environmental and Social Impacts

The actual environmental and social risks and impacts caused by project implementation should be closely monitored during the construction and operation of the project to examine the effectiveness of the mitigation measures. The goals of monitoring are to measure the success rate of the project, determine whether interventions have resulted in dealing with negative impacts, and whether further interventions are needed, or monitoring is to be extended in some areas. The activities described in table 15 need to be conducted for impact monitoring.

Table 13: Monitoring and Evaluation Framework

S/N	PHASE	INSTITUTION RESPONSIBLE	PERFORMANCE INDICATORS	PERIOD TO BE CONDUCTED
1	Preparation/ Pre-Construction Phase	Contractor	Screening check list, ESMF, ESMP, ESIA, RPF etc.	5 months
2	Construction Phase	REA	E&S report and activities	**Every 5 months**
3	Operation And Maintenance Phase	REA, FMEnv	ESMP and E&S reports	**Every 6 months throughout the project life cycle**
4	Decommissioning Phase	REA, FMEnv	Operational activities/E&S report	5 months

6.2.3. Environmental and Social Auditing

Environmental and social audits will be used as management tool to enhance all the E&S management tools as captured in this ESMF. REA through its PMU shall commit to a systematic, documented, periodic and objective evaluation. REA will facilitate periodic meetings with mini grid developers, SHS companies, contractors and universities/communities with the aim of having a discussion surrounding good environmental and social practices and assessing compliance with FGN EIA and WB ESSs, which includes meeting regulatory requirements and applicable standards.

There will be a cycle of audits built into specific areas of the project such as land acquisition or waste management. The frequency of audits will be risk based and will vary with the stage of the project and will depend on the results of previous audits. In addition, periodic auditing of

the different plant and operations shall be embarked on every three years as required by the FMEnv, NESREA etc.

Further, audit results will be used to improve the environmental and social screening procedures. Environmental and social auditing will be used towards the preparation of environmental and social screening, as well as in many circumstances in which the project activities carry a risk of harmful effects on the natural environment. All auditing strategies and programmes for the projects shall have reasons and justifications which will be designed to establish the current status of an environment or to establish trends in environmental parameters where the projects shall be implemented. In all cases the results of auditing will be reviewed, analyzed and published by REA for the purpose of improving project implementation.

An independent consultant will be hired to evaluate the project implementation arrangements for REA, in line with the ToR template (Annex X). The audit shall be performed by qualified staff and the results shall be reported to REA to be addressed.

CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT PROCESS

7.1. Introduction

The ESMF incorporates an overall environmental and social management process for DARES project and proposed subprojects. The process involves steps and activities for the Borrower to carry out the environment and social assessment (ESA) of projects in line with the objectives of the ESMF and develop an Environmental and Social Management Framework Guidelines for the mitigation of the potential negative risks and impacts and for monitoring compliance with the relevant Environment and Social Standards (ESSs) of the ESF. The management process will help identify the procedures to assess the environmental and social risks and impacts. associated with the project and ensure that positive impacts are optimized, and negative impacts are minimized or mitigated.

Environmental performance, sustainability, and social responsibility are critical to the success of an investment. Thus, well-designed environmental and social approach can help to manage potential reputation risks for investors, reduce social conflicts within communities, protect the environment and help reduce political risks.

Core principle for the design of E&S risk management approach for the project is expanding and strengthening E&S systems and capacity of the private sector – through adoption of formal Environmental and Social Management Systems (ESMS) – that can be relied upon for carrying adequate E&S assessment and risk management for individual mini-grids in Component 1 and SHS installation in Component 2

This chapter aims to identify the party responsible for each specific steps and tasks in all aspects of the E&S management throughout the project cycle.

7.2 Land Requirement

Estimating land requirement for solar plant installations

Estimated land requirement will be established using the following formula:

Ha (*generation capacity/ panel capacity x panel surface area*).

Standard requirement is established at 15m2 per KW of proposed generation capacity plus an additional 7.5m2 per kW for future generation capacity expansion. When actual sites for solar panel installation are confirmed by developers, they must report the area of land acquired – whether through voluntary land donation, lease, or purchase – for the mini grid and provide justification, as applicable, for taking more land than required based on REA's estimate.

Part of the lesson leant from the NEP was that the results of the first round of survey conducted by the REA which shows that among 97 potential mini grid constituting the MST sites that: 18

of them are in protected areas, 76 has experienced natural disaster, 61 have water shortage, 50 have high poverty rate, 56 have high unemployment rate, and 26 have high social disparity (Annex XII).

Additionally, the surveys determined the following land ownership models.

Type of Land Ownership	# of Communities
Community land ownership	44 Communities
Customary land ownership	26 Communities
Family land ownership	57 Communities
Individual land ownership	51 Communities
Traditional land ownership	50 Communities

* There may be multiple forms of land ownership reported for the same community

Under the Land Use Act 1978, all land in Nigeria is vested in the government. In addition to the statutory land tenure, Nigeria also operates a customary system of land tenure. Broadly, land ownership in Nigeria can be classified under the following: (1) Community land (Ancestral Land): owned by all the people; (2) Communal land: consists mostly of under-developed forests and owned by nobody. Those who clear it first claim ownership; (3) Clan or family land: owned by clans and families; (4) Institutional land: land allocated to traditional institutions such as traditional authorities and chiefs; and (5) Individual land: land acquired by an individual, which may be inherited by the immediate family, depending on customary practices or purchased or allocated by the government. A more detailed analysis of land ownership in Nigeria is contained in the project RPF.

Stage 2: Competitive Tendering

REA continues to play the leading role during this stage, but mini-grid developers' E&S responsibilities also have started. Before the tendering process starts, REA will:

- Prepare the Lot Package, which contain all relevant information of each mini-grid community lots, including E&S information obtained during site surveys;
- Conduct a public advertising campaign for the Call for Expressions of Interest. The information made public during the campaigns should include: (i) E&S eligibility criteria as part of the overall criteria for developer selection, including ESMS and a clean track record, such as no environmental fines in the past 3 years, etc.; and (2) site selection criteria, including ***E&S Exclusion Criteria for Mini Grid and Power Generation Sites*** that developers must apply; and
- Host bidders' workshop, which integrates E&S requirements.

5.2.1. Exclusion criteria for mini grid and power generation sites

The exclusion criteria for mini grid sites (component 1) and the interconnected mini grid sites will apply as follows:

1. Sites that do not comply with relevant environmental and social national or state regulations of Nigeria[1]

2. Sites located in legally protected areas (e.g., national parks, conservation areas, forests)[2]
3. Sites located in internationally recognized areas[3]
4. Sites located in critical natural habitats[4]
5. Sites where mini grid construction and operation will cause significant degradation of natural habitats (e.g., mangroves)[5]
6. Sites in flood-prone zones
7. Sites located on land from which government agencies or builders have removed / involuntarily resettled local communities, including squatters or encroachers, without proper compensation[6]
8. Sites located on land associated with illegal forced evictions of previous owners or occupants[7]
9. Sites in locations and / or developed in a manner that involves significant adverse impacts on physical cultural property[8]

See page 192 for the relevant footnotes.

It is a mandatory requirement to qualify for the minimum subsidy that mini grid developers establish and maintain an internal institutional Environmental and Social Management System (ESMS) appropriate to the nature of their business and commensurate with the level of its environmental and social risks and impacts. The ESMS will incorporate the following elements: (i) policy; (ii) process for identification of risks and impacts; (iii) risk management plans/ programs; (iv) organizational capacity and competency; (v) emergency preparedness and response; (vi) stakeholder engagement (including grievance mechanism); and (vii) monitoring and review.

During the tendering process, when developers submit their proposals/bids, their E&S responsibilities at this step include:

- Prepare and submit documents meeting selection criteria, including ESMS as part of Business Plan for REA to review and verify (ESMS template is provided in Annex IV); and
- Provide evidence of clean track record, such as no environmental or labor violations or fines in past 3 years.

After the proposal submission period, REA's Technical Review Committee would review bids to ensure all selection criteria, including E&S eligibility, are met. The Grant Agreement with winning developer(s) should include an E&S clause, and REA should also liaise with the winning developer(s) to improve their ESMS if needed, until REA is satisfied that a robust system exists.

Stage 3: Construction and Operation

As part of preparation for mini-grid construction, the winning developer(s) will:

- Conduct E&S screening and classify sites into E&S risk category (I, II);
- Inform REA of outcomes of screening (consolidated report);
-
- In case any sites fall under the &S Exclusion Criteria for Mini Grid and Power Generation Sites, inform REA immediately upon this determination so that these sites can be removed from the lot;
- Prepare ESIA and ESMP (for category I) or ESMP (for category II), Resettlement Action Plan and/ Livelihood Restoration Plan,[20] as applicable;
- Obtain any E&S permits required by law;
- Conduct stakeholder engagement and establish a grievance redress mechanism; and
- Submit relevant documents to REA (specifically, ESIAs and RAPs/ LRPs for category I) and keep documents for category II on file for verification by REA as part of oversight and monitoring.

For E&S risk categorization, category I will be assigned to sites with higher E&S risks as compared to category II sites. The decision will be made by developers based on the outcomes of E&S screening done by them and verified by REA. Developers will classify sites as part of their ESMS. Guidance on classification will be provided by REA as part of the ESMF. REA has the ultimate authority to decide whether a construction site should be categorized as I or II.

[20] Any site requiring involuntary resettlement or livelihood restoration must be classified as category I.

For example, sites requiring resettlement should always be classified as category I and will require a RAP. Category I sites will require an ESIA and category II sites will require a simple ESMP. In both cases, developer will be required to conduct community engagement and establish a grievance redress mechanism. ESMPs will be kept by developers on file for verification by REA during sample checks/ audits; ESIAs and RAPs are sent to REA for review and verification before construction can start (as these are higher risk).

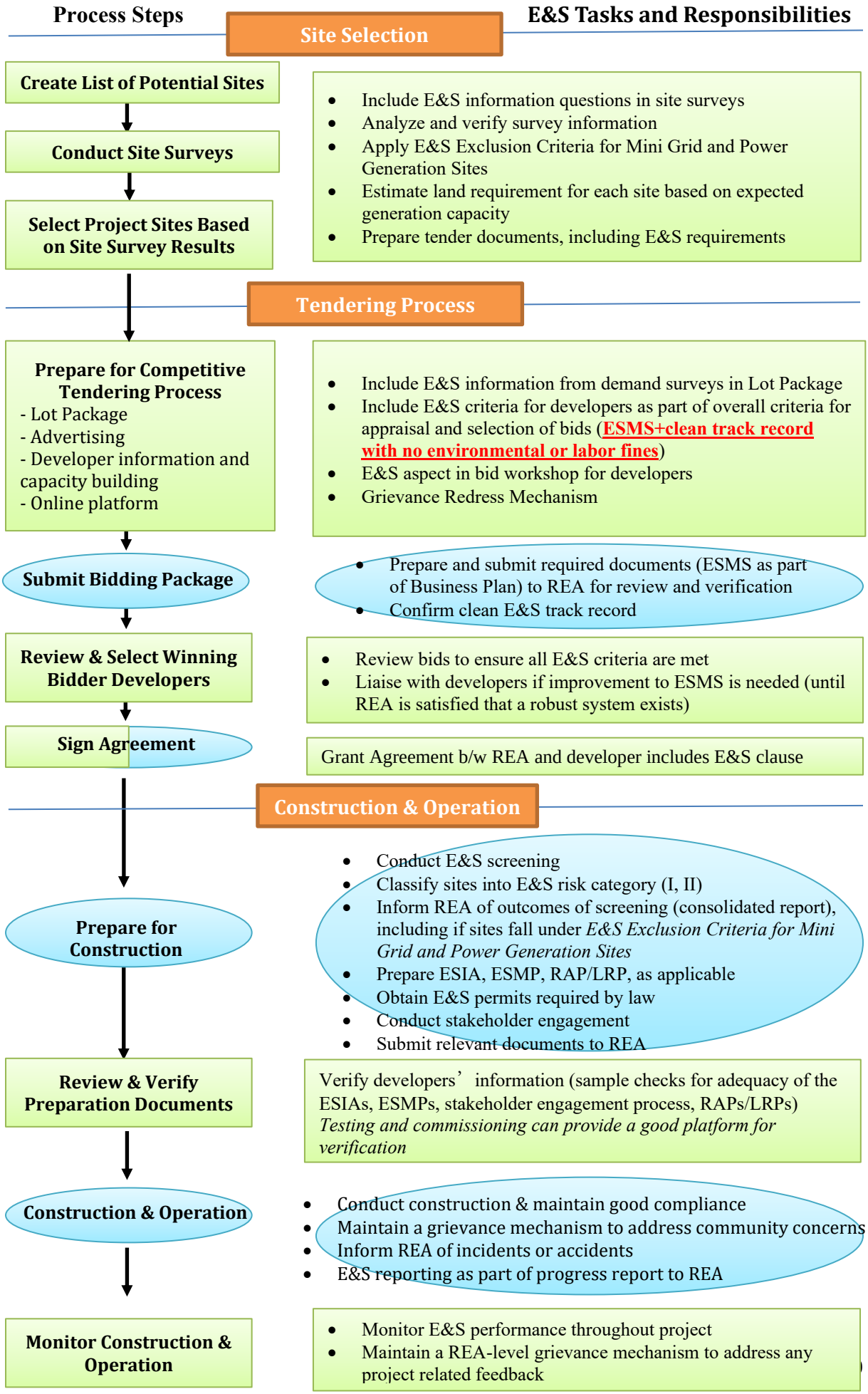
After the developer has submitted all required documents, and REA has completed verification, the developer can start mini-grid construction. During mini-grid construction and throughout its operating life, the developer needs to:

- Maintain compliance with E&S requirements;
- Maintain a grievance redress mechanism to address community concerns;
- Inform REA immediately of any incidents or accidents that can interfere with maintaining E&S compliance;
- Submit E&S reporting as part of regular progress reports to REA, according to template provided as part of ESMS template in Annex IV.

Meanwhile, REA will:

- Monitor E&S performance through project cycle on sample basis; and
- Maintain a REA-level grievance redress mechanism to address any project related feedback in a timely and meaningful manner.

Figure 7.1.1: E&S Workflow for Minimum Subsidy Tender for Mini grid Development
(Green: REA; Blue: Mini grid Developer)



Source: NEP, 2018

7.2.2. Performance Based Grants

Under this subcomponent, mini grid developers submit an ESMS and confirm a clean E&S track record as part of their application to be admitted into the program. Once accepted into the program, they screen and conduct E&S due diligence for one or more mini grids before submitting their proposals for funding, along with site-specific E&S documents. REA reviews and evaluates each proposal and approves, returns for adjustment, or rejects the proposal. For approved proposals, a Grant Agreement will be signed between REA and the mini-grid developer. The site-specific E&S documents must be verified by REA before construction can commence (using sampling as part of risk-based approach). During construction and operation, the developer must maintain E&S compliance while REA continues to monitor its E&S performance.

In sum, Performance Based Grants program has 3 major stages: (1) Proposal–Acceptance into the Program; (2) Design Verification for Sites; and (3) Construction & Operation. Figure 5.1.1 shows the workflow of this component and the general E&S responsibilities of each key party. For further details, please refer to the Project Implementation Manual.

Stage 1: Proposal–Acceptance into the Program

At the beginning of the implementation period, REA will publish a program announcement, which will include: i) E&S eligibility criteria as part of the overall criteria for developer selection, including ESMS requirement and clean track record, such as no environmental or labor violations or fines in the past 3 years; and ii) site selection criteria, including ***E&S Exclusion Criteria for Mini Grid and Power Generation Sites***.

Mini-grid developers who meet all of REA's eligibility criteria and thus qualify for entry into the performance-based grant program must prepare and submit an application package that includes the following:

- Documents establishing eligibility, including ESMS as part of a Business Plan for REA to review and verify (ESMS template is provided in Annex IV); and
- Proven clean track record on E& S compliance (no environmental or labor violation or fines in past 3 years).

REA would approve the developer for admission into the program after:

- Reviewing the proposal to ensure all E&S criteria are met; and
- Liaising with developers if improvement to ESMS is needed, until the developer has a robust system that REA is satisfied with.

Stage 2: Design Verification for Sites

Once the developer has been admitted into the program, the developer shall start preparing site specific documents including E&S documentation as follows:

- Conduct E&S screening and classify sites into E&S risk category (I, II);
- Inform REA of outcomes of screening (consolidated report);

- In case any sites fall under the E&S Exclusion Criteria for Mini Grid and Power Generation Sites, inform REA immediately;
- Prepare ESIA and ESMP (for category I) or ESMP (for category II), Resettlement Action Plan and/ Livelihood Restoration Plan,[21] as applicable; in case where ESIAs and/or ESMPs have been prepared by mini grid developers in advance of their application for performance based grants, such instruments should be updated – if necessary - to ensure they meet World Bank safeguard policies pursuant guidance provided in the ESMS template (Annex IV);
- Obtain any E&S permits required by law;
- Conduct stakeholder engagement and establish a grievance redress mechanism; and
- Submit relevant documents to REA (specifically, ESIAs and RAPs/ LRPs for category I) and keep documents for category II on file for verification by REA as part of oversight and monitoring.
- RAPs/LRP must be reviewed and cleared by the World Bank.

REA will review and verify the site preparation documents through desk review of ESIA and ESMP, with sample site visits when feasible during design verification with aim to minimize negative E&S impacts. In addition, REA will review all RAP/LRP and visit all sites where activities are expected to lead to involuntary physical/ economic displacement.

Once REA is satisfied with the site-specific technical application, including E&S documents, it would sign a Grant Agreement with the developer, which shall include E&S clauses.

Stage 3: Construction and Operation

Once verification is completed, the developer can start mini-grid construction. During construction and operation of the mini-grid, the developer needs to:

- Maintain compliance with E&S requirements;
- Maintain a grievance mechanism to address community concerns;
- Inform REA immediately of any incidents or accidents that can interfere with maintaining E&S compliance;
- Submit E&S reporting as part of regular progress reports to REA, according to template provided as part of ESMS template in Annex IV.

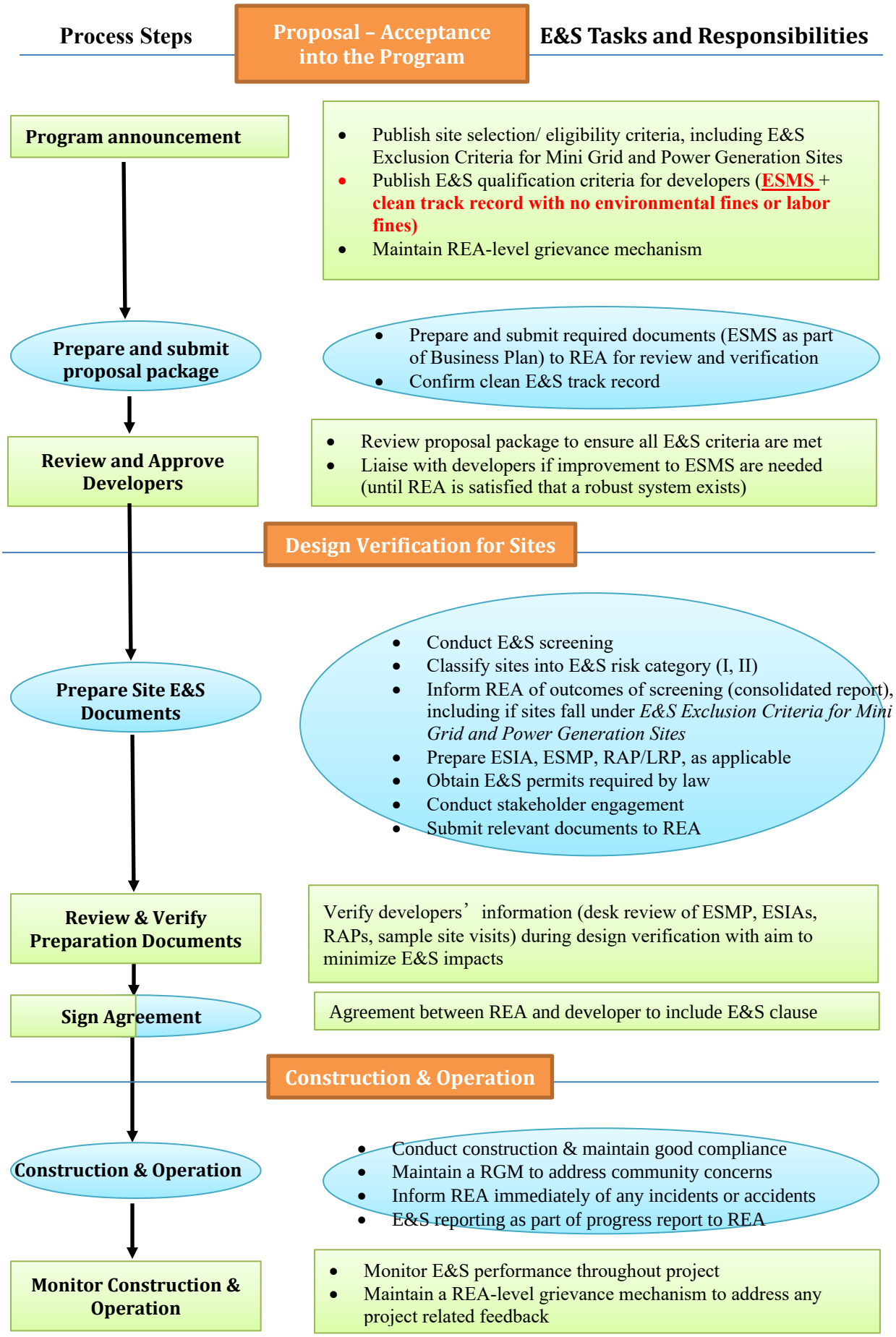
Meanwhile, REA will:

- Monitor E&S performance through project cycle; and
- Maintain a REA-level grievance redress mechanism to address any project related feedback in a timely and meaningful manner.

[21] Any site requiring involuntary resettlement or livelihood restoration must be classified as category I.

Figure 7.1. 2: E&S Workflow for Performance Based Grants for Mini grid Development

(Green: REA; Blue: Mini grid Developer)



Source: NEP, 2018

7.3. E&S Management Process for Component 2: Standalone Solar Systems for Homes, Enterprises and Farms

The goal of this component is to help 1.5 million underserved Nigerian households and micro, small and medium enterprises (MSMEs) access better energy services at lower cost than their current service, via stand-alone solar home systems provided by the private sector. This component will support the deployment of stand-alone solar systems ranging in different sizes and levels of service. SHS standards are described in the SHS Operations Manual in detail.

Based on the qualification criteria established by REA, which include E&S requirements, SHS distributors will need to be qualified before they can submit application for grants under this component. Once a SHS distributor becomes a qualified distributor, it can then submit grant application, which once approved, will cover a certain amount of SHS installation. Once the grant agreement has been signed, the distributor will start the installation and receive the grant based on the number of units of SHS install, per the grant agreement. The distributor also needs to maintain good compliance and good customer service after installation. REA is responsible for verifying distributors' qualification, installation performance, overall compliance and maintaining a GRM for both the public and the distributors for project related feedback.

In sum, the process has three main stages: (1) Distributor Qualification Process; (2) SHS Installation Stage; and (3) Post Installation Stage. Figure 4.3 shows the workflow of this component and the general E&S responsibilities of each key party.

Stage 1: Qualification Process

First, REA will establish and publish the qualification criteria for SHS distributors to apply to become "Qualified Distributor" under this project component. Specific E&S requirements are:

- Have a good E&S track record, meaning no E&S related fines, violation record, litigation, or pending litigations in the past three years;
- Have an institutional ESMS that meets REA's requirements – ESMS for this component is defined as a number of key policies and procedures prepared and implemented by an SHS company (see annex XI for guidance on the ESMS requirements for SHS developers);
- Have the intuitional capacity to implement such ESMS; and
- Be willing to participate in E&S capacity building activates hosted by REA should REA deem necessary.

Interested distributors can submit their completed Qualification Application Form and supply all required documentation for application, including E&S documents, as part of application. REA will review and verify the application before making the decision.

- Verify the adequacy of information submitted;
- Use questionnaire for lithium-ion battery management to assess practices of SHS companies (Annex XIII);
- Maintain REA-level GRM to address project related issues (this is a common requirement for all three components).

After verification, REA and the SHS company would sign the Grant Agreement, which should include clear E&S requirements, such as

- SHS company's responsibility to maintain required policies in good standing; and
- SHS company will notify REA of any E&S issues are affecting its compliance.

Stage 2: SHS Company Operations

With the signed agreement, companies will start installing SHS per its terms and submit claims for grants, as long as its operation remains in good compliance with laws and all other E&S requirements. REA will pay for qualified claims and maintain a REA-level GRM for any project related issues.

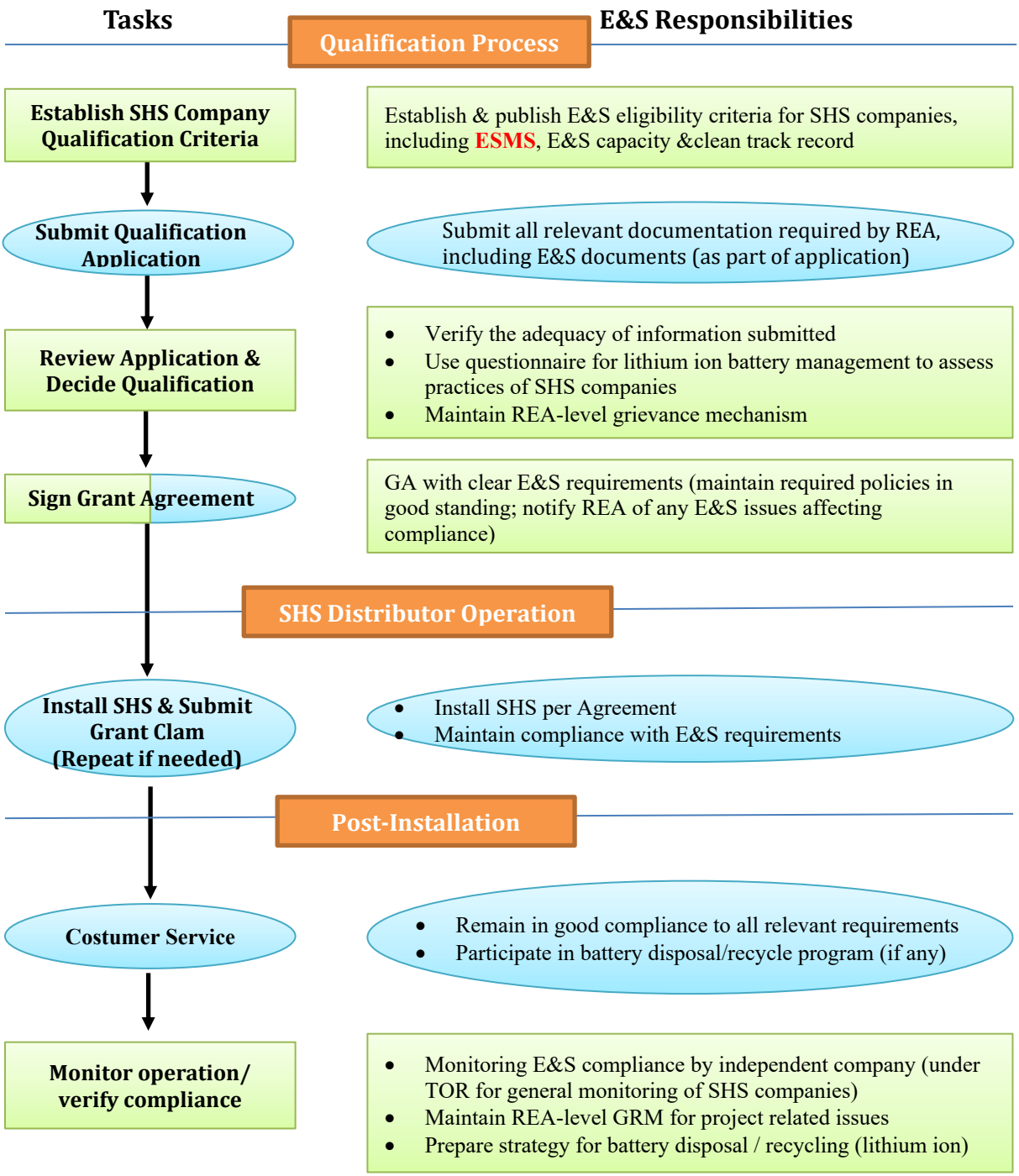
Stage 3: Post-Installation

After the SHS has been installed and is in use, the SHS company is still responsible to maintain good compliance to overall requirements, provide good customer service, participate in battery disposal/recycle program (as developed by REA).

REA's duty to monitor operation and verify compliance include:

- Monitoring E&S compliance by independent company (under TOR for general monitoring of SHS companies);
- Maintain REA-level GRM for project related issues; and
- Prepare strategy for battery disposal / recycling (lithium ion).

Figure 7.2 E&S Workflow for Subcomponent 2: Standalone Solar Systems for Homes, Enterprises and Farms
(Green: REA; Blue: SHS Distributor)
* "ESMS" is defined as a number of key polices (see annex XI)



Source: NEP ESMF, 2018

CHAPTER EIGHT: INSTITUTIONAL ARRANGEMENTS FOR ESMF IMPLEMENTATION

8.1. Roles and Responsibilities of Implementing Entities

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

Below describes the detailed roles and responsibilities of the key institutions involved in the implementation of the ESMF by project components.

Table 14: Main Implementing Agency

Institutions	Roles
REA	✓ Will provide overall coordination of the Project and lead in the implementation of the different components (1-3) ✓ Overall responsibility for E&S due diligence and compliance monitoring. ✓ Will be responsible for the overall coordination of the project implementation and oversight. ✓ For the E&S risk management across project components, PMU for the project will be responsible for: o Overall oversight of the E&S risk assessment, management, and monitoring processes in line with this ESMF, for each component of the Project o Implementing a reporting system from private sector entities to REA on implementation of E&S requirements o Engaging an independent E&S auditor to ensure that private sector entities are implementing E&S requirements set out in the ESMF consistently. o Responsible for citizen engagement, maintaining adequate stakeholder engagement and grievance redress mechanism and ensuring that private sector entities maintain the same at their level. o Will establish a communication line between the REA zonal offices and ensure project success on this aspect. o Will also facilitate liaise with MDAS, CBOS, NGOS and project affected communities; o Organizing and implementing capacity building programs for mini grid developers and other key stakeholders o Defining, jointly with the respective states and local governments, the project priorities based on technical and policy development priorities;

Institutions	Roles
	○ Resolving in consultation with the States/local governments challenges requiring high level intervention facing the project ○ Engaging in preparing solutions for E&S strategic risks identified (battery recycling, land, and harmonization of standards); ○ Monitoring the implementation of the project in consultation
Federal Ministry of Environment (FMEnv)	✓ Will provide environmental clearance as required by laws and regulations, when the mini grid developer submits sufficient information and evidence of compliance
National Environmental Regulatory Standards Enforcement Agency (NESREA)	✓ Will play the role of lead environmental regulator, overseeing compliance requirements, granting consent and also monitoring or providing supervisory oversight for the REA projects. ✓ Also, shall receive comments from stakeholders, public hearing of project proposals, and convening technical decision-making panel as well as provide approval and needed clearance for EIA/EMP or other environmental clearance in the absence of the FmEnv.
Affected communities	✓ Will participate in monitoring, based on the arraignment agreed with the mini grid developer and outlined in the SEP
Independent E&S auditor	✓ Hired by the REA-PMU, the auditor will conduct annual review of developers' E&S performance.
World Bank Group	✓ Will lay the benchmarks for all environmental and social safeguard issues concerned with the development and implementation of DARES. ✓ Will provide overall supervision, facilitation and co-ordination of the REA projects. ✓ Will also monitor funds and funds allocations, and project performance indicators. ✓ Will assess the implementation of the ESMF and recommend additional measures for strengthening the management framework and implementation performance, where need be The reporting framework, screening procedures and preparation of management and mitigation plans shall be discussed and agreed by the Bank team and REA-PMU during the early part of project implementation.

Table 15: Roles and Responsibilities by Project Component

Component 1.1: Mini grid

Institutions	Roles
REA	✓ Plays an essential role in setting the overall E&S standards and ensuring the requirements are met thorough the process including; ***1.*** E&S requirement setting o Set applicable E&S requirements and includes them in the grand application process for mini grid developers. Such as the exclusion list and requirements for ESIA/ESMP, RAP/LRP, consultation, clean E&S track records, etc. o Require mini grid developers to prepare ESMS. A sample mini grid developer ESMS is available in Annex IV, and capacity building will be provided to help developers to design and implement a suitable ESMS. o Integrate E&S requirements in legal agreements with mini grid developments. 2. E&S due diligence: REA will conduct sample site visits for category I and selected category II mini grids to validate the risk categorization and risk management design/implementation is sufficient. 3. E&S monitoring: REA will conduct monitoring activities during mini grid construction and operation, such as sample, risk-based checks and site visits. 4. E&S reporting: REA will: ***a.*** Review E&S reports submitted by the developers and conduct follow-ups based on desk-top reviews and site visits. ***b.*** Maintain records of developer screening, ESIAs, ESMPs, RAPs and/ or LRPs, and other relevant documents 5. E&S auditing: REA will hire an independent E&S auditor
FMEnv	✓ Will provide environmental clearance as required by laws and regulations, when the mini grid developer submits sufficient information and evidence of compliance
Mini grid Developers	✓ E&S requirement setting: mini grid developers will incorporate application E&S requirements in their institutional ESMS, that include national and regional laws/policies and any requirement set by REA and other investors (if any). E&S screening: ***a.*** Conduct the actual E&S screening based on all relevant requirements, employing or hiring

Institutions	Roles
	qualified E&S specialists, and provide sufficient resources for such activities. ***b.*** Determine key E&S risk and impacts of individual mini grids and assign E&S category (I or II), corresponding to high or medium/low risk. ***c.*** Submit a list of category I sites to REA before begin construction. ✓ E&S due diligence: mini grid developers will prepare and integrate into project design that: (1) for Category I projects, ESIA and RAPs and/or LRP as needed; (2) for Category II projects, ESMP; and (3) for all projects: The Stakeholder Engagement Plan (SEP) and Grievance Mechanism. ✓ E&S monitoring: mini grid developers will conduct self-monitoring activities in line with their ESMS and main all monitoring records properly. ✓ E&S reporting: ***a.*** Prepare E&S reports to REA based on REA's reporting requirements; ***b.*** Report any incident or accidents within several days of occurrence, including any E&S fines, litigation, or other administrative/legal issues. E&S audit: Mini grid developers will provide all relevant reports and documents to the independent E&S auditors in a timely manner upon request.
FMEnv	✓ Same function above
Affected Communities	✓ Will participate in monitoring, based on the arraignment agreed with the mini grid developer and outlined in the SEP
Component 1.2: SHS	
REA	✓ Sets the E&S standards and ensures the requirements are met thorough the process. Its responsibilities include. 1. **SHS company grant application stage** ***a.*** Prepare elements required for an ESMS in line with REA's requirement. ***b.*** Submit statement of current practice of battery disposal/recycling. ***2.*** **SHS company operations stage** ***a.*** Remain in good compliance to all relevant requirements. ***b.*** Participate in battery disposal/recycle program (if any). 3. **Monitoring stage:** ***a.*** Conduct self-monitoring to ensure compliance. ***b.*** Provide relevant documents to REA in a timely manner when request.

Institutions	Roles
Component 2: Urban access/ Rooftop	
REA	Same as 1.1 and 1.2
Interconnected Developers	Same as 1.1
FMEnv	Same as above

Table 16: Overview of Relevant Federal Institutions

Institution	Role
Federal Ministry of Finance	The Ministry of Finance will function in the capacity of the Federal Republic of Nigeria (the borrower)
Federal Ministry of Justice	The Federal Ministry of Justice shall sign on behalf of FGN as the borrower.
Federal Ministry of Environment (FMEnv)	Federal Ministry of Environment (FMEnv) is mandated by the Federal Republic of Nigeria to ensure environmental protection and natural resources conservation for a sustainable development in the country. They promote cooperation in environmental science and conservation technology with similar bodies in other countries and with international bodies connected with the protection of the environment and the conservation of natural resources. The Ministry also cooperates with Federal and State Ministries, Local Government, statutory bodies and research agencies on matters and facilities relating to the protection of the environment and the conservation of natural resources. The Environmental Assessment Department of the Federal Ministry of Environment will ensure that all project/sub-project ESIAs meet international "best practices" and the NESREA will regulate and enforce the implementation of all EMPs developed for the REA projects.
Department of Rural Electrification of the Federal Ministry of Power, Works and Housing (FPW&H)	This is the designated department of the FMPW&H to handle all, policy issues pertaining to rural electrification. It will be the FMPW&Hs primary representative in the execution of the project particularly in component 1 subproject.

(i) State Level Institutions

The State level institutions include other relevant Ministries, Departments and Agencies (MDAs), State Environmental Protections Agencies/Authorities (SEPAs). Most states have set up Environmental Protection agencies as the regulatory body to protect and manage the environmental issues in their domain. The functions of the SEPAs include:

- Enforcement of all environmental legislations in the states
- Minimization of impacts of physical development on the ecosystem
- Preservation, conservation and restoration to pre-impact status of all ecological process essential for the preservation of biological diversity.

- Protection of air, water, land, forest and wildlife within the state.
- Pollution control and environmental health in the state.

(ii) Local Government Level Institutions

The Local Government (LG) has become accepted as the government nearest to the people or the masses. For any meaningful development to take place, this level of government needs to be galvanized to execute people-oriented programs to lower poverty level. The LG governs the affairs in the various communities. It is expected that it serves as an interphase between the community members and REA coordinating centers located in the six geopolitical zones. The LG can assist in the implementation of stakeholder engagement mechanisms. Members of the local government are mostly people from the community and can easily win the trust of the people. Their staff can work together with the other MDAs.

The Local Government Council has to be fully briefed in the process and steps to be taken in the ESMF/EA/ESMP and the overall project execution. The Council should in turn engage and should be encouraged to support the awareness campaign for the proposed project to be designed by REA, amongst the various relevant grass roots interest groups.

(iii) Community Level

This includes direct and other concerned stakeholders/groups. This may have complaints/views that need to be resolved in the choosing and execution of the various sub-projects. It is obvious that villages and youth leaders shall ensure that social values are not interfered with. Community Based Organizations (CBO) based in the communities can serve as an interphase and can speak for the people.

CHAPTER NINE: STAKEHOLDER ENGAGEMENT AND GRIEVANCE MECHANISM

9.1. Introduction

Early and continuous stakeholder engagement is very important because it will give the communities and the potentially Project Affected Person(s) the opportunity to contribute input and feedback information, aimed at strengthening the development project and avoiding negative impacts, or mitigating them where they cannot be avoided. It also reduces the possibilities of conflicts between and among the project and adjacent communities. Therefore, effective and close consultation with them is a pre-requisite for the successful running and execution of the DARES.

As such, there is the need to utilize social development approaches (such as inclusive and continuous stakeholder participation in project implementation) as key accelerators to achieving results. Social sustainability program will support but also test what citizens can do to keep the government's investments through the project operating properly and yielding benefits to the citizenry as intended.

Stakeholder and citizen engagement will be built by:

- setting up effective grievance redress and beneficiary feedback mechanisms;
- ensuring an intensive program of engagement with project stakeholders;
- deploying of effective strategic communications and public education;
- deepening the consultation process which began during project preparation; and
- monitoring social impact through annual stakeholder surveys.

REA will engage with stakeholders, including communities, groups, or individuals affected by the project, and with other interested parties, though information disclosure, consultation and informed participation in a manner proportionate to the risk to and impacts on affected communities. Stakeholder's engagement should take place at the inception of the planning stages, for example, when the potential mini grid project sites are being investigated, and as soon as the universities are identified. Public consultation will be made when potential resettlement and compensation concerns are involved.

A grievance redress mechanism, a tool to address affected communities' concerns and complaints, is an important pillar of the stakeholder engagement process, since it creates opportunities for the project implementers and affected communities to identify problems and discover solutions together. Grievance redress mechanism will be available both at REA level and private sector entities level (mini grid developers, SHS companies, and contractors).

9.2. Stakeholder Consultation and Engagement

The DARES is a scale-up programme following the NEP and shares same stakeholders. Moreover, standalone SEP was developed for the DARES with more details on the engagement processes. Find below a summary of the level of stakeholder's engagements to date. Stakeholder Engagement and Feedback via providing data and details on the existing situation, management status of the NEP has been instrumental in designing the DARES Project. A series of consultations were held with the private sector, the REA, and the World Bank. Summary of the stakeholder consultations are listed in the Table below.

Table 17: Summary of Stakeholder Consultations to date

S/N	Consultation	Meeting Dates	Participants	Meeting themes	Venue
1	Discussions with previously identified stakeholders to firm up the design of various interventions meant to scale up and improve up successful elements of the ongoing Nigeria Electrification Project (NEP)	2nd December 2022	Private sector developers, REA-NEP, World Bank	Engagement with stakeholders as a way of building on lessons learned from the NEP for the DARES project.	Virtual (zoom meeting)
2	Meeting with SHS distributors/companies around the deployment of the standalone home systems.	30th November 2022	REA Management, NEP PMU, Developers, IDAs	Engagement with stakeholders as a way of building on lessons learned from the NEP for the DARES project.	Hybrid (Physical &Virtual)
3	Brainstorming session with the NEP Solar Hybrid Mini Grid Team	29th November 2022	REA Management, NEP PMU, World Bank	Refining the scope of the Mini grid component under the NEP to improve on the scope for the planned DARES project.	Physical meeting at the REA-NEP office, Jabi Abuja
4	Deep dive discussion	17th and 22nd March 2023	REA management, NEP PMU, World Bank	Deep dive into the concept note for the DARES project	Hybrid (Physical &Virtual) at the NEP Office, Abuja
5	Engagement with the development partners and other stakeholders.	16th 2023 March	RMI, REA-NEP,GEAPP and SE4All	Building a coalition of support for DARES to seek parallel financing opportunities across the planned interventions and Technical Assistance.	Physical meeting at the NEP Office, Abuja
6	Kickoff workshop for the Pre-Appraisal mission.	15th March, 2023	REA-NEP PMU, World Bank	Defining the scope of the planned DARES project interventions in Rural Peri-Urban and Urban areas and including productive uses of electricity.	Physical meeting at the NEP Office, Abuja

Following, the stakeholder engagement and public consultation entails the process of informing the Institutions/communities on: (a) the need to carry out the sub-projects in their environment, (b) the scope and (c) the need for the Institution/community to own and safeguard the project as beneficiaries and stakeholders. Such engagement is important because it will give the Institutions/communities and the potentially Project Affected Person(s) the opportunity to contribute input and feedback information, aimed at strengthening the development process and avoiding negative impacts or mitigating them where they cannot be avoided. Effective and close consultation with them is a pre-requisite for the successful running and execution of the project.

In recognition of this, efforts will be made to carry out further public consultation with potentially affected individuals/households when resettlement and compensation concerns are involved. The PMU will establish a grievance redress mechanism (GRM) that will allow general public in the project area, affected communities or individuals, and PAPs to file complaints and to receive responses in a timely manner. The system will also record and consolidate complaints and their follow-up. This system will, be designed for handling complaints perceived to be generated by the project or its personnel. It may also include disagreements about compensation and other related matters.

Stakeholder's engagement and public consultation would be an on-going activity taking place throughout the entire project process. Public participation and consultation would take place through meetings, radio programs, requests for written proposals/comments, filling in of questionnaires, explanations of project to the locals, making public documents available at the federal, state and local levels.

At the local level, suitable locations will include the Village squares, churches halls, residences of traditional or recognized leaders. These measures would take into account the low literacy levels prevalent in these rural communities by allowing enough time for responses and feedback. Notwithstanding, the best guarantors for public interest are the chiefs and other religious leaders who are responsible members of their local communities and can inadvertently be part of the potentially displaced (economically or physically) individuals/households either in part or in whole.

The objectives of stakeholder engagement are:

- To keep stakeholders informed about the project components at different stages of implementation.
- To address the environmental and social concerns/ impacts, and device mitigation measures taking into account the opinion/ suggestions of the stakeholder.
- To generate and document broad community support for the sub-projects.
- To improve communications among interested parties.
- To establish formal complaint submittal / resolution mechanisms.
- To discuss about subproject and document its issues, concerns and mitigation measures.

The key issues and concerns identified during the consultations included, but not limited to:

- Are these projects going to provide any benefits for the local people?
- Whether local people will get better access to electricity?
- Whether solar panels will have any impact on the health of the people and the crops being grown in the area?
- What will be the rate for land payable to the landowners?
- What will be the fate of agricultural labor that do not own land and are dependent on landowners for labor work on agricultural land owned by big farmers?
- How would the developer/constructor ensure that the noise / dust / labor camps setup during the construction phase of the project does not impact the local village community?
- Will the construction activity have any adverse impacts on our existing surface water resources?

9.2.1. Special Requirements for Subprojects with Potential Resettlement

Whenever a physical and/or economic displacement might occur due to the subproject construction, special requirements apply during the stakeholder engagement process. REA has established a Resettlement Policy Framework (RPF).

When a developer/contractor will be conducting construction on a site that might require resettlement, Resettlement Action Plan (RAP) needs to be prepared and implemented (by mini grid developers in case of component 1 and REA in case of component 3). The RAP should be publicly disclosed and consulted with affected communities before finalization. No construction can start until the RAP is approved by REA and resettlement process is completed. If

resettlement becomes necessary on a selected site which was originally considered to not require any resettlement, no construction or preparation work will be conducted until the consultation is completed and the RAP has been prepared and approved by REA and compensation paid.

Stakeholder Engagement for Mini Grid Construction

1. As part of the minimum subsidy tender process, early stakeholder engagement for this component will be conducted at the site investigation stage by REA. REA shall take into account the comments from such consultation in deciding whether a potential mini grid construction site should be selected for the lots. Subsequently, mini grid developers will continue to conduct stakeholder engagement as part of their ESMS.

2. The stakeholder engagement as part of the performance-based grants process will be conducted by the mini grid developer as part of their ESMS. Stakeholder engagement would start before they submit their proposals. A summary of findings, detailed description of the process and engagement log should be included in the Proposal Package. Stakeholder engagement should continue throughout subproject construction and operation. If REA deems the initial stakeholder engagement is not sufficient, it can ask the developer to conduct a further consultation before the construction or any preparation work begins.

Stakeholder Engagement for Component 3: NA

9.3. Grievance Mechanism (GM)

The project will set up a project-specific Grievance Mechanism for people to report concerns or complaints, if they feel unfairly treated or are affected by any of the subprojects. . A separate GBV GRM shall also be established to address issues relating to GBV/SEA/SH and any victims. The GRM system will record and consolidate complaints and their follow-up.

While the GBV GRM is designed to exclusively and confidentially handle matters of GBV/SEA/SH nature, the project GRM system will be designed to handle complaints perceived to be generated by the subproject or its personnel. It may also include disagreements about compensation and other related matters. The mechanism will amongst other things:

- provide information about project implementation;
- provide a forum for resolving grievances and disputes at the lowest level;
- resolve disputes relatively quickly before they escalate to an unmanageable level;
- facilitate effective communication between the project and affected persons;
- win the trust and confidence of project beneficiaries and stakeholders and create productive relationships between the parties.

The GRM should review any existing resolution systems (government/traditional) that are operative in the area and propose ways that the GRM may fit within these systems. Ideally the subproject GRM should have second and third levels of appeal (including the court system, if appropriate, for legitimate claims that cannot be resolved at lower levels). The functioning of the GRM system, how to register complaints (written, by phone, or in person), where to go and hours of service, all should be clearly explained in local language during initial public consultations on the subproject. Local language brochures should be provided reiterating the functioning of the GRM.

The PMU is responsible for setting up and maintaining the GRM that allows general public and affected communities or individuals to file complaints and to receive responses in a timely

manner. The system will also record and consolidate complaints and their follow-up. This system will be designed for handling complaints perceived to be generated by the project or its personnel. It may also include disagreements about compensation and other related matters.

The GRM will be communicated to all stakeholders in the course of REA's stakeholder engagement activities and remain available throughout the project cycle. It is expected to address concerns promptly an effectively, in a transparent manner that is culturally appropriate and readily accessible to all project affected parties, at no cost and without retribution. It also will allow for anonymous complains to be raise and addressed.

The PMU will assign a specific staff member to oversee that this is functioning properly. The consultants should review any existing GRM systems (government/traditional) that are operative in the area and propose ways that the GRM may fit within these systems. Ideally, the GRM should have second and third levels of appeal (including the court system, if appropriate, for legitimate claims that cannot be resolved at lower levels). The functioning of the GRM system, how to register complaints (written, by phone, or in person), where to go and hours of service, all should be clearly explained in local language during initial public consultations on the project. For the purpose of clear procedure below table present a typical grievance redress process and modality.

The Grievance Management Process as shown in table 9.1 will include;

- Different ways in which users can submit their grievances, which may include submission in person, by phone, text message, mail, email or via a website;
- A lot where grievances are registered in writing and maintained as a database;
- Publicly advertised procedures, setting out the length of time users can expect to wait for acknowledgement, response, and resolution of their grievances;
- Transparency about the grievance procedure, governing structure and decision makers; and
- An appeals process (including the national judiciary) to which unsatisfied grievances may be referred when resolution of grievance has not been achieved.

Table 18: Grievance Management Process

Process	Description	Time Frame	Other Information
Identification of grievance	Face to face; phone; letter; mail; e-mail; website; recorded during public/ community interaction; others. The responsible party to receive the grievances will be REA and the subproject implementers. The grievance can also be passed through other parties, such as the chief office because the public are more conversant with this office. The grievance receiver would then pass the complaint to REA contact person	1 Day[22]	Email address; hotline number
Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e., in a logbook) It will be prudent to have a grievance record	3-6 Days	Significance criteria: Level 1 –one off event; Level 2 – complaint is widespread or repeated;

[22] Day means working day.

Process	Description	Time Frame	Other Information
	book where the grievances are recorded for follow up		Level 3- any complaint (one off or repeated) that indicates breach of law/ policy or this ESMF provisions
Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	3 Days	
Development of response	Grievance assigned to appropriate party for resolution. Response development with input from management/ relevant stakeholders	4-8 Days	
Response signed off	Redress action approved at appropriate	8-15 Days	
Implementation /communication of response	Redress action implemented and update of progress on resolution communicated to complainant	5-9 Days	

If complainants are not satisfied with the grievance process, even after arbitration, the affected persons will still have the right to present their complaint through the court system.

9.4 The DARES-PMU Grievance Redress Committee

The Grievance Redress Committees, GRC, will be mandated to deal with all types of grievances arising at the community level due to DARES and its subprojects with the exception of GBV/SEA/SH matters. As earlier indicated, a separate GBV GRC shall be established to address any grievances relating to any GBV/SEA/SH in accordance with the provisions of this ESMF under Section 9.5. The project GRC members will comprise of qualified, experienced, and competent personnel who will be able to interact and gain the trust of the Affected Persons (AP's) in their communities. The GRC should consist of both male and female representatives. They should be able to accept complaints, provide relevant information on the process, discuss the complainants' situations with AP's, and explore possible approaches for resolution. The project Grievance Redress Committee will include the following members;

1. PMU Environmental Safeguards Specialist and Social Development Specialist
2. PMU Communication Specialist
3. PMU M&E Specialist
4. Energy Gender Specialist (if available) Supported by a nominee each from:
4. Office of the Head, PMU
5. PMU Procurement Unit
6. Project Engineers
7. Office of the REA Director of Promotions
8. Zonal Liaison Officer
9. NERC

The project Committee will be responsible for the following:

- Communicating with the Affected persons (AP's) and evaluate if they are entitled to recompense.
- Publicizing within the Communities, the list of affected persons and the functioning of the established grievance redressal procedure;
- Recommending to the Social Officer of the PMU solutions to such grievances from affected persons;
- Communicating the decisions to the AP's;

- to acknowledge appeals from persons, households or groups who rightfully will not be affected by the ACRESAL and its projects, but claim to be,
- Recommending to the PMU whether such persons should be recognized as AP's, and,
- Communicating back the decisions to the Claimants.

This committee shall be the apex authority of the DARES GRM, which will make recommendations for action to the Head of Project Management Unit in the case of issues of extreme importance, or make referral to the Citizens' Rights/Mediation Centre in the Ministry of Justice of an applicable state in the case of grievances that are either unresolvable at the committee level or found to be extraneous to the execution of the DARES

9.5 Gender Based Violence (GBV) and Sexual Exploitation, Abuse and Harassment (SEAH)

All complaints related to GBV shall be treated in a private and confidential manner, limiting information to what the survival or complainant is freely willing to provide. A separate register shall be opened for this category of cases and shall ONLY be accessed by the community-based GRC secretary, the GRM coordinator at the PMU (and any female GRC member empowered to handle GBV cases where the Chairman and Secretary are all male). The complainant (if a survival) shall be attended to with empathy, assurance of safety and confidentiality. In the event that the complainant is not willing to divulge any information, the GRM officer should respect this view, and the complainant referred to the appropriate nearest medical centre, approved with available GBV service provider or police, depending on the complainant's choice. Such a complaint should be reported to the World Bank Task Team as well by the PMU GRC.

Other considerations for the handling of GBV/SEA grievances include:
No GBV data on anyone who may be a survival should be collected without making referral services available to support them.
All GBV complaint should be referred to the right service provider and other relevant institutions, information to be requested should be limited to:
The nature of the complaint (what the complainant says in her/his own words without direct questioning) If, to the best of their knowledge, the perpetrator was associated with the project.

Note, a separate SEP has been prepared for the DARES Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement.

CHAPTER TEN: TRAINING AND CAPACITY BUILDING

REA is committed to providing resources essential to the implementation and control of the ESMF. REA shall ensure the availability of resources essential to implement the ESMF. Resources include human resources and specialized skills, organizational infrastructure, technology, and financial resources.

REA will establish and maintain documentations as necessary to demonstrate conformity to its requirements of its ESMF and the results achieved, with a sound procedure to identify, store, protect, retrieve, retain, and dispose of such documentations. The ESMF documentation shall include:

- documents, including records, required by national or international laws;
- document, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of processes that related to its significant E&S aspects.

Consistent with its commitment to compliance, REA shall establish, implement and maintain a procedure(s) for periodically evaluating compliance with applicable E&S requirements. REA shall keep records of the results of the periodic evaluations.

REA management shall review the ESMF, at planned intervals, to ensure its continuing suitability, adequacy, and effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes of the environmental management system, including the environmental policy and environmental objectives and targets. Records of the management reviews shall be retained.

For effective implementation of the ESMF, there will be need for technical E&S capacity in the human resource base of REA as the implementing institution, as well as key private sector entities responsible for implementation of activities under project components. Appropriate understanding of the mechanisms for implementing the ESMF will need to be provided to the various stakeholders implementing REA projects. It will also be important to ensure that REA has sufficient capacity and systems for effective oversight of the fairly complex processes for E&S risk management with multiple parties involved.

Table 19 summarizes the potential challenges faced by components 1 and 2, and 3 and capacity building can help address them effectively.

Table 19: Off-grid components 1&2 challenges and mitigation measures

Challenges	Mitigation
1. Lack of awareness	Promotional program ▪ Training programs
2. Lack of access to financing	Select and strengthen capacity of participating credit institution. ▪ Capitalize a credit line. ▪ On-lend to:solar home system companies for working capital, mini grids for investment, or MFIs for on-lending to SHS customers
3. Untested business models	Public-private partnership enterprise model with the ultimate goal of commercialization ▪ Presence of multiple program partners ensures healthy competition. ▪ Phased reduction of grants

	▪ Training for program partners in enterprise and financial management
4. Lack of institutional capacity	Institutional development grant ▪ Long-term concessionary credit ▪ Staff training program
5. High cost of quality SHS equipment and mini grids	Capital buy-down grant. ▪ Concessionary credit facility ▪ Consumer in-kind or cash equity ▪ Increased volume of business
6. Lack of quality assurance	Technical Standards ▪ Design assistance services ▪ Quality control by the Program Manager ▪ Training to Participant Organizations in good practices in design, installation, and service

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

- E&S management planning and monitoring systems, impact assessment tools, monitoring tools and activities;
- Preparation and verification of reporting;
- Public participation techniques and citizen engagement, including public awareness creation / educational techniques (on environmental, social and health issues); and
- Addressing systemic E&S risks in in the Nigerian off-grid solar market through developing targeted strategic solutions.

Capacity building efforts are needed at different levels. It has to be ensured that all authorities, institutions and organizations involved integrate their activities within appropriate co-coordinating mechanisms in order to give consistent signals for the management of REA projects. The four E&S capacity building activities categories are:

- E&S capacity building for REA;
- E&S training and support to mini grid developers;
- Training that empowers citizen engagement; and
- Capacity building that strengthens the developing strategic solutions for E&S risk management for the off-grid solar market.

10.1. E&S Capacity Building for REA

This will support developing REA's capacity to implement robust E&S risk management approach in its activities, as well as enhance E&S benefits and opportunities, such as gender-related activities, green initiatives etc.

REA should be able to provide adequate training for its E&S staff, as well as all other staff to whom this aspect is relevant. This support will also include budget for conducting regular monitoring activities, as well as independent E&S audits.

Sample capacity building options for REA to enhance its management capacity by allowing real application of the best practices such as the following:

- E&S screening: screening of investments for potential environmental and social impacts, scoping assessments, planning mitigation options, public consultation to assess

feasibility and acceptability options; step by step implement the environmental and social screening process for projects;

- Environment: site selection to minimize environmental impacts and social disruption; restoration of drainage patterns including mitigation matters in contracts; management of impacts during construction; monitoring of effectiveness of measures;

- Monitoring and grievance redress: transparency and supervision responsibilities.

10.1.1. E&S Training and Support to Mini Grid Developers

This activity will build E&S capacity, as part of overall capacity strengthening, of existing mini grid developers and other private companies interested in entering the mini grid market to identify sites viable for mini grid development. They will be provided with training and support to develop and enhance their ESMS to be able to comply with the applicable E&S requirements, monitor and report.

The mini grid developers should be trained in different aspects of the implementation of the ESMF and the proposed Project, including interpretation and implementation of environmental impact management guidelines. The three major areas for anticipated trainings are:

- Awareness raising to fully appreciate the significance or relevance of environmental issues, as well as sensitivity of certain issues, such as land use.

- Detailed technical training on analyzing potentially adverse environmental impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of environmental and social management plans. This training will address such matters as environmental assessment; using the ESMF; and project supervision and monitoring;

- Capacity building on how to interact with host communities, such as community participation methods, both for conducting stakeholder engagement and for address conflicts/grievance caused by the proposed project.

- Monitoring & reporting: how to fulfill REA's requirement on monitoring and reporting.

- Other training that will strengthen mini grid developers' ability to improve overall project quality, such as project management, occupational health and safety, monitoring and evaluation, waste management, etc.

10.1.2. Citizen Engagement

This will support the education and awareness under the project's key delivery areas namely households, small businesses, universities. Different stakeholders affected by the project's implementation have different training needs.

The target audience of such training activities include, but not limited to: people live in and around the affected areas, people whose land and/or livelihood might be affected by the projects, people who benefit from the newly build mini solar grids, buyers/potential buyers of the standalone solar system, students and faculties in the beneficiary universities and teaching hospitals, etc.

The activities here are proposed to address the following:

- Initial reservation in the adoption of a new technology for communities and households (for both solar mini-girds and SHS);
- Buyer inability to make informed purchasing decisions and decipher quality in the market;
- Importance and advantages of conserving energy;
- Environmental and social awareness for solar technologies, such as recycling/ proper disposal of batteries.

The capacity building activities will equally prioritize men and women as a prime target audience. It is in project's interest to reach women who will be the end users of the proposed solar solutions.

Capacity development for community facilitators and field-level staff will also be implemented because they are the organs that will reach out to the communities, and it becomes necessary for these staff and representatives to be well grounded with adequate information on the project. They will be able to communicate effectively in the local languages, understanding community dynamics and processes, negotiation, and conflict resolution, and empathizing with communities and their needs. Building trust and maintaining good rapport with the people in the Project areas by providing relevant information on the project and responding effectively to their needs and concerns will help solve issues before they even become grievances. It is also important that the community facilitators and field-level staff provide feedback to the REA.

10.1.3 Capacity Building that Strengthens the Developing Strategic Solution for E&S Risk Management for the Off-Grid Solar Market

This category of activities will support developing programmatic approaches to address key strategic challenges faced by players beyond the direct stakeholders of this project.

Beyond the specific E&S due diligence at the level of mini grid sites and developers, SHS distributors, and private sector contractors for the three program components, some of the identified E&S risks require strategic solutions at the market/ sector level. Therefore, capacity training targeting a boarder scope of audience, including policy makers, industry practitioners, domestic and international financiers, and other key players in Nigeria's solar energy sector.

- Land issues and competing land use challenges for mini grids;
- Waste management, and more specifically, battery storage and recycling; and
- Need for harmonization of E&S standards among private mini grid developers and their financiers.

In sum, capacity building should be viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.

In order to achieve the goal of the ESMF, there is an urgent need for capacity building and strengthening of relevant competencies on environmental and social management at the PMU, Federal, States, LGAs and community levels including contractors. To this end, capacity building should be viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information,

knowledge and training that enables them to perform effectively. It also involves organizational development, the elaboration of management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community).

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

- Environmental Impact Assessment Process - Screening, scoping, impact analysis, mitigation measures and monitoring, reviewing EIA Reports'
- Environmental Due Diligence - Types of due diligence, screening projects for liabilities, scoping due diligence investigations and reviewing due diligence reports.
- Monitoring and Evaluation - Understanding the importance of M&E in project implementation, M&E requirements for environmental and social sustainability of projects'

The estimated budget for implementation of the ESMF Implementation is given below in table 20.

Table 20: E&S Capacity Building Activities

Activity	Description	When	Training to be conducted by who	Estimated Budget
1. **Strengthening REA's E&S capacity**	This will support developing REA's capacity to implement robust E&S risk management approach in its activities, as well as enhance E&S benefits and opportunities (such as gender-related activities, green initiatives etc.). REA should be able to provide adequate training for its E&S staff, as well as other staff to whom this aspect is relevant. This support will also include budget for: (a) training of REA E&S staff (b) hiring an E&S firm to assist in building E&S systems for the project. (c) conducting regular E&S monitoring activities (both directly by REA and third-party monitoring by a specialized NGO or other similar entity)	During project implementation	External Consultant	$600,000

Activity	Description	When	Training to be conducted by who	Estimated Budget
	(d) commissioning independent E&S audits (e) hiring gender expert.			
2. **Design and implementation of a GRM**	Design and implementation of a Grievance Redress Mechanism at REA level and integrating it at various levels of the project.	Before project implementation	External Consultant	$400,000
3. **Training and support to mini grid developers for ESMS development and implementation**	This activity will build E&S capacity, as part of overall capacity strengthening, of existing mini grid developers and other private companies interested in entering the mini grid market to identify sites viable for mini grid development. They will be provided with training and support to develop and enhance their ESMS to be able to comply with the applicable E&S requirements, monitor and report.	Throughout project lifecycle	External Consultant	$200,000
4. **Developing strategic solutions for E&S risk management for the off-grid solar market**	This will support developing programmatic approaches to address key strategic challenges identified, which are (i) land issues and competing land use challenges for mini grids; (ii) waste management, and more specifically, battery storage and recycling; (iii) need for harmonization of E&S standards among private mini grid developers and their financiers	Throughout project lifecycle	REA/Consultant	$700,000
4a. Battery recycling	*Waste management, and more specifically, battery storage and recycling; and need for harmonization of E&S standards among private mini grid developers and their financiers.*			*$300,000*
4b. Land acquisition and resettlement	*Land issues would be addressed through building strategic engagements with*			*$250,000*

Activity	Description	When	Training to be conducted by who	Estimated Budget
	relevant regulatory agencies and bringing them together with private sector mini grid developers to develop sustainable models for land acquisition, including stakeholder engagement with communities			
4c. Policy/ standards harmonization	*Multi-stakeholder dialogue on harmonization of E&S standards and regulatory environment for mini grid developers*			*$150,0000*
5. **Community engagement and sensitization campaigns**	This will support the education and awareness under the project's key delivery areas namely households, small businesses, universities. The initiative will address the following: (i) initial reservation in the adoption of a new technology for communities and households (for both solar mini-girds and SHS); (ii) buyer inability to make informed purchasing decisions and decipher quality in the market; (iii) importance and advantages of conserving energy; and (iv) environmental and social awareness for solar technologies, such as recycling/ proper disposal of batteries. The initiative will equally prioritize men and women as a prime target audience. It is in project's interest to reach women who will be the end users of the proposed solar solutions. This will also include citizen engagement surveys.	Throughout project lifecycle	REA	$400,000
6. **Gender actions implementation**	Implementing gender strategy for the project, with the following core gender actions: • For mini grid development, exploring entry points to enhance women's participation and productive uses of energy in mini-grid operations in order to increase	During project implementation	Consultant	$400,000

Activity	Description	When	Training to be conducted by who	Estimated Budget
	sustainability of operations. • For SHS component, taking action for women to be seen and engaged as valuable partners along the entire value chain—in the design, marketing, sales, and after-sale services. • GBV prevention and mitigation and monitoring.			
Total				**$2,500,000**

10.2. ESMF Implementation Budget

Budgetary estimates are provided in Table **21** to support the implementation of the environmental and social management framework. The estimated budget is US$ 2,500,000.00.

Table 21: Estimated Budget to Implement ESMF

No	Activity	Description	Total Cost, US$	Total cost (Naira)
1.	E&S Capacity	Strengthening of REA E&S capacity	600,000.00	285,000,00.00
2	Design and implementation of GRM	REA level GRM for good project implementation	400,000.00	190,000,000.00
3	Training and support for ESMS implementation	Support to developers for a good ESMS implementation for sustainable E&S management	200,000.00	95,000,000.00
4	Battery, land and policy development	End of life battery management, good land acquisition process with sound policy guideline	700,000.00	332,000,000.00
5	Community engagement	Stakeholders' engagement and sensitization throughout the life cycle of the project	400,000.00	190,000.000
6	Gender action plan	Implementing gender strategy		190,000.000
7	Independent Auditor	Monitoring E&S compliance	400,000.00	190,000,000
	TOTAL (ESMF IMPLEMENTATION)		**2,900,000**	**1.377,500,000.00**

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National Air Quality Standard Decree No 59 of 1991

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World Bank Environmental and Social Framework

ANNEXES
Annex I: Sample ToR for Environmental and Social Impact Assessment for a project

TOR FOR ESIA CONSULTANT

TERMS OF REFERENCE (TOR)

FOR THE ENGAGEMENT OF

CONSULTANT TO DEVELOP THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

FOR

PROJECT TITLE

DATE

1 INTODUCTION/BACKGROUND

2.0 DESCRIPTION OF THE PROJECT

3 STATUTORY LEGAL AND ADMINISTRATIVE FRAMEWORKS

The statutory (legal and administrative) frameworks within which the consultancy activities shall be executed are provided in the following regulations, guidelines, and standards (Note: these regulations are not exhaustive):

i. The World Bank Safeguard Policies and Environmental Health and Safety Guidelines.
ii. The regulations, guidelines, and standards of the Federal Ministry of Power as it concerns high voltage power transmission in Nigeria.
iii. The regulations, guidelines and standards of the Federal Ministry of Environment concerning power generation and transmission activities in Nigeria.
iv. The regulations, guidelines and standards of the various State Ministries of Environment and Social Welfare.
v. All International Conventions/Treaties on Environmental Protection/Social Welfare to which Nigeria is a party.
vi. The Corporate and Operational Policies of the Transmission Company of Nigeria.

4 OBJECTIVES OF THE ASSIGNMENT

The objective of this consultancy is to prepare an Environmental and Social Impact Assessment (ESIA) in line with the requirements of the Federal Government of Nigeria and The World Bank's applicable ESS to ensure that any adverse effects on the environment and project affected persons (PAPs) are properly mitigated and livelihood of PAPs are restored. The successful consultant shall work closely and report to the CEO through the E&S unit of the PMU, to achieve the key objectives of the assignment, which shall include:

i. The specific activities, which the ESIA and RAP (where required) are meant to address and cover includes;

   - ✓ Design,
   - ✓ Construction
   - ✓ Operation of the university mini-grids and associated infrastructure.

ii. To consider project induced environmental and social impacts, whether they be adverse of positive impacts, and identify means to either eliminate or minimize the adverse impacts whilst at the same time seeking to enhance the positives;
iii. Document the ecological and socioeconomic baseline conditions of the study area and the affected communities;
iv. Determine the number of persons affected directly by the project (persons whose property, shelter or means of livelihood will be destroyed, relocated or restricted by the implementation of the rehabilitation project),
v. Enumerate and classify the number and type of properties on the land (crops, farm-land, structures, traditional sites (graveyards, shrines, etc.),

vi. Conduct a Social Survey of the respective project location/Sites and adjoining surroundings including:
- ❖ To describe the social environment (socio-cultural characteristics; various communities, languages, cultural beliefs/practices, occupation, means of livelihood, settlement pattern, gender issues, etc) of the project area;
- ❖ Identify any vulnerable groups, such as women and people with disabilities, who may need special assistance or support
- ❖ Establish how the various communities in 5a above are affected by the project;
- ❖ Identify the owners of the properties in 5b above (complete Bio-data capture),
- ❖ Establish the exact cost/worth of the properties owned by each person in 5e above;
- ❖ Determine through appropriate procedures concurrent with the ESS (prior and informed consultation and well represented negotiations) how each Project Affected Person (PAP) will be compensated;
- ❖ Organize stakeholder consultations before, during and at the close of the project to capture the concerns of the various stakeholders (especially the PAPs) about the project: - this shall include but limited to distribution of questionnaires and other information gathering techniques);
- ❖ Document the results of the consultations;
- ❖ Document the land tenure systems in the respective project areas and highlight any legacy issues pertaining to the initial acquisition of the Land of the respective project sites.
- ❖ Communicate the concerns captured in 5h above to the REA-PMU through the appropriate channels to be established and incorporate same in the progress reports;
- ❖ Establish a Grievance Redress Mechanism (GRM)
- ❖ Supervise the actual payment of the compensation to the respective beneficiaries identified; and
- ❖ Prepare a Resettlement Action Plan (RAP) incorporating the deductions from the activities listed above.

vii. Inform and obtain input from stakeholders, (e.g., governmental authorities, the public, and indigenous communities) and capture their relevant issues and concerns;

viii. Assess the environmental, social, and health impacts that would result from the Project;

ix. Identify environmental and social mitigation measures to address the impacts identified;

x. Meet the requirements or recommendations of the applicable national and international regulations and standards; and

xi. Be guided by the policies, guidelines, and procedures of the relevant international treaties and agreements; and

xii. Liaise with the E&S unit of the PMU to obtain final ESIA approval from the Federal Ministry of Environment for the DARES

5 SCOPE OF THE ASSIGNMENT AND GENERAL APPROACH

The Consultant, who shall be duly registered with the Federal Ministry of Environment, towards achieving the objectives noted under section 4 above, shall carry out the following activities:

1) **Desktop review and Mapping**:
   i. Issuance of Information Request Sheet
   ii. Gathering of relevant project and environmental documents
   iii. Desktop review of relevant documents
   iv. Initial Identification of Stakeholders (including Project Affected Persons, PAPs)
   v. Preparation of survey maps

vi. Preparation of detailed work plan
vii. Preparation of draft survey tool

2) **Field Data Gathering and Laboratory Analysis**
   i. Stakeholder meetings
   ii. Baseline environmental data gathering
   iii. Land-use mapping
   iv. Biophysical surveys (ecology, air quality, soil/water quality, etc.)
   v. Community based meetings of PAPs
   vi. In-depth interview sessions, focus group discussions and questionnaire administration to all PAPs.
   vii. Transportation and traffic surveys
   viii. Identification of specific PAP vulnerable groups/persons/households
   ix. Laboratory analysis in a laboratory, which should be fully accredited by the FMEnv.
   x. Undertake field visits to ascertain if subprojects are implemented in an environmentally and socially sustainable manner.
   xi. Contribute to project progress report pertaining to overall implementation of environmental and social requirement of the projects.

3) **ESIA Draft Report Writing**
   i. Detailed baseline descriptions
   ii. Preparation of additional maps
   iii. Identification of environmental and social aspects and impacts
   iv. Draft ESIA

4) **Final ESIA Report Writing and Regulatory Activities**

   i. Submission of Draft ESIA Reports to the FMEnv
   ii. Draft ESIA Reports to be reviewed by the FMEnv
   iii. Preparation of Final ESIA Reports via the E&S unit of the-PMU.
   iv. E&S unit of PMU reviews Final ESIA Reports
   v. Submission of Final ESIA Reports to the FMEnv
   vi. Payment of final regulatory fees
   vii. Issuance of ESIA Approval Letters by the FMEnv

6 CONSULTATIONS WITH REGULATORY AGENCIES AND OTHER RELEVANT STAKEHOLDERS

Throughout the duration of the Assignment, the Consultant shall maintain effective communication with relevant Regulatory Agencies/Stakeholders at the Federal, State and Local Government levels on the proposed Project. The Stakeholders shall include the following:

   i. Federal Ministry of Environment,
   ii. Federal Ministry of Youth and Social Development
   iii. State Ministries of Environment
   iv. State Ministries of Youth and Social Development
   v. Respective Local Government Councils
   vi. State environmental agencies
   vii. Community Based Organizations, (Civil Society, NGOs) in the affected States.

7 Reporting and deliverables

The Consultant is expected to work closely and report to the E&S unit of the PMU and, members of the Advisory Power Team towards successfully executing the assignment.

7.1 The following reports shall be submitted by the Consultant to the Rural Electrification Agency:

s/n	Deliverables	Timeline *(After contract signing in weeks)*	*Payment (%age of Total Remuneration)*
1.	**Inception Report: -** This should include methodology and work plan with clearly defined strategy for carrying out the assignment with timelines for the various outputs. The report should include: • Detailed Project including plan for the on-site activities. • Complete Work plan document • Draft Survey Tools The Consultant must submit (3) hard copies and a soft copy of the inception report. **Progress Report:** An update on the progress of the Baseline survey and plans for completion of the survey and next activities.	Week 2- 8	30
2.	**2nd Progress Report: -** Presentation of the result of consultations, questionnaires and other information collected from the field to include. – Land Surveys – Certified Survey Plans for each of the Phase 2 Projects – Draft E(S)MP Report for each of the Phase 2 Projects **Draft ESIA Report: -** A draft report containing detailed compilations of the Inception to the 2nd Progress report and containing all the various sections of a good ESIA.	8 - 16	30
3.	Final ESIA Report for each of the phase 2 project **Panel Review: -** Presentation of the ESIA at a Panel to be held by the Federal ministry of Environment. ESIA certification and approval letters from the FMEnv for each of the phase 2 project Final ESIA report as approved by the FMEnv will be produce for each of the institutions as covered in this TOR.	16-24	40

8.0 COMPETENCY AND EXPERTISE REQUIREMENT:

The Consultant will have the following qualifications, expertise & experience with not less than 4 for supporting staffs and 15 years of graduation with minimum of 10 years working experience in related field for the team leader:

i. In-depth understanding of, and experience with, the existing regulatory regime and personnel associated with review and approval of environmental projects in Nigeria;

ii. Extensive experience in supporting and undertaking the production of reports and related documents that are comprehensive, understandable and address the needs of the regulatory and review processes;

iii. In-depth understanding of key issues that are of importance to all stakeholders and regulators and a proven track record in effectively engaging these groups in the project processes through consultation;

iv. A proven record and experience of several successfully completed environmental projects in Nigeria; and

v. Extensive experience working with industry as well as State and Federal Government MDAs and stakeholders on environmental matters in Nigeria.

vi. In-depth understanding of, and experience with, the existing regulatory regime and personnel associated with surveying projects and practices in Nigeria;

vii. A proven record and experience of several successfully completed surveying projects in Nigeria;

With respect to Land Surveys:

viii. Experience working with industry as well as State and Federal Government MDAs and stakeholders in Nigeria;

ix. Excellent written and verbal communication skills;

x. Efficient and effective time management.

xi. Evidence of having carried out similar assignments with the World Bank or any International Donor will be an added advantage.

8.1 Education:

The Consultant shall provide experienced personnel to carry out the assignment with the following minimum qualifications:

SN	Personnel – ESIA	Qualifications	Experience in years
1	Team leader	MSc in Mathematics, Sciences or Engineering	10-15
2	Social Expert	Advance degree in Sociology preferable MSc	
3 4	Air quality and Noise/Project Manager Sociologist	MSC in environmental chemistry BSc sociology/Anthropology	8-10 8
5	Terrestrial Ecology specialist	BSc in botany or other related course	7

SN	Personnel – ESIA	Qualifications	Experience in years
6	Aquatic Ecology specialist	BSc in marine biology or other related course	7
7	Mapping/GIS/Traffic specialist	BSc. GIS/Remote Sensing or other related course	6
8	Social Survey/Public Consultation officer	BSc in social works or Sociology or other related course	6
9 10	Soil Studies specialist Communications	BSc in environmental chemistry, soil science or other related course BSc/HND in Political Science/Mass Communication	5 8
10	Electrical Engineer	MSc in Electrical Engineering or other related course	6
11	nior Land Surveyor	At the minimum, a Master of Science Degree, with 5 years cognate experience in land surveying and mapping;	5
12	Three supporting surveyors	At the minimum, a BSc Degree, with cognate experience in land surveying and mapping;	3

Towards, developing the land surveys required, the consultant who shall be a qualified surveyor, shall:

- Conduct site verification visits;
- Conduct investigation by way of searching legal records, survey records, and land titles in order to obtain information about property boundaries in areas to be surveyed;
- Commence surveys of the Phase 2 Project sites;
- Verify the accuracy of survey data, including measurements and calculations conducted at survey sites;

Prepare and maintain sketches, maps, reports, and legal descriptions of surveys in order to describe, certify, and assume liability for work performed. Such maps, reports etc. should include but not be limited to information on the following:

1. Ownership/title to land
2. information on the shape, contour, location, elevation, and dimensions of land or land features;
3. heights, depths, relative positions, property lines, and other characteristics of terrain; and
4. Baselines, elevations, and other geodetic measurements, longitudes and latitudes of important features and boundaries in survey areas using theodolites, transits, levels, and satellite-based global positioning systems (GPS).

Apply to the National Institute of Surveyors (NIS) for a beacon or special number for the

survey documentation.

- Satisfy requirements of the NIS
- Submit survey documentation to the Surveyor-General's office through the NIS

9.0 RESPONSIBILITIES OF THE CLIENT

In addition to the project supervisory and other responsibilities contained in this assignment, the client shall provide the Consultant with the following project documents:

i. Relevant project documents, maps, route surveys.
ii. Access to relevant stakeholders

10.0 TIME AND EFFORT LEVEL

The Consultant shall prepare time schedules to be submitted to the E&S unit of the PMU in accordance to this TOR. And shall report to the E&S unit of the PMU.

The time frame for the entire consultancy services is within six (6) months of contract signing.

11. 0 TERMS OF PAYMENT:

Payments to the Consultant shall be made in equal end-of-month payments of agreed amount subject to completion of core reporting responsibilities as laid out in the Assignment Work plan.

12.0 TRANSFER OF KNOWLEDGE

The Consultant shall closely work with E&S unit of the PMU and members of the APT to transfer all relevant knowledge required.

13.0 SELECTION METHOD

Consultant shall be selected through the Individual Consultant Selection Method in accordance with the procedures set out in the World Bank guidelines: Selection and employment of consultants by bank borrowers, January, 2011 revised July, 2014.

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Annex II: Template for Waste Management Plan

TEMPLATE FOR A WASTE MANAGEMENT PLAN FOR A RENEWABLE ENERGY PROJECT:

1. Introduction
- *Briefly explain the purpose and scope of the waste management plan for the renewable energy project.*
- *Identify the organization responsible for implementing the plan.*

2. Goals and Objectives
- *Define the goals and objectives of the waste management plan.*
- *Explain how the plan aligns with any relevant laws or regulations.*

3. Waste Streams
- *Identify the types of waste generated by the renewable energy project (e.g. construction waste, equipment waste, hazardous waste).*
- *Describe how each waste stream will be managed.*

4. Collection and Transportation
- *Describe the methods used for collecting and transporting waste from the project site.*
- *Explain how the waste will be segregated and stored prior to collection.*

5. Treatment and Disposal
- *Describe the methods used for treating and disposing of the waste.*
- *Explain how the waste will be disposed of in compliance with relevant laws and regulations.*
- *Identify any opportunities for recycling or reusing materials generated by the renewable energy project.*

6. Monitoring and Reporting
- *Explain how the waste management plan will be monitored and evaluated for effectiveness.*
- *Describe the methods used for reporting on the progress of the plan.*

7. Education and Training
- *Describe the education and training programs that will be implemented to ensure compliance with the waste management plan.*
- *Identify the target audiences for these programs.*

8. Conclusion
- *Summarize the key points of the waste management plan for the renewable energy project.*
- *Provide any necessary acknowledgements.*

Note that this is just a basic template, and you may need to modify it to suit your specific needs and requirements. Also, depending on the complexity of your renewable energy project, you may need to provide additional details and sections to the plan.

Note that this is just a basic template, and you may need to modify it to suit your specific needs and requirements. Also, depending on the complexity of your renewable energy project, you may need to provide additional details and sections to the plan.

Annex III: Sample ToR for HSE Consultancy

TERMS OF REFERENCE
DEVELOPMENT OF A HEALTH AND SAFETY PLAN TEMPLATE

1. INTRODUCTION

2. OBJECTIVES OF CONSULTANCY

The objectives of this consultancy are to:

- Create a template document to develop their own Health and Safety Plan
- Create this document in compliance with the relevant aspects of the World Bank ESS and the Nigeria government Labour Code

3. SCOPE OF WORK

This Consultancy will require the engagement of a consultant with a background in Disaster Management, Business Management and Plan Development/Project Management. The use of digital conversion methods of the layout and production of the template are expected.

The Consultant will be required to:
a) Develop content for the Health and Safety Plan Template for Businesses;
b) Provide appropriate formatting and simplified language that can be accessed and understood by a wide range of persons;
c) Provide an easy to follow layout of the Template for business people;
d) Facilitate a local consultation with approved stakeholders to test and evaluate the Health and Safety Plan Template for Businesses; and
e) Finalize the Health and Safety Plan and prepare for handover to the REA.

More specifically, the Consultant will:

3.1 Prepare an Inception Report with a Work Implementation Plan that demonstrates a clear understanding of the assignment, detailing:
  i. The Proposed Work Schedule with timelines and methodology;
  ii. Proposed Budget; and iii. List of material or resources required for the Consultancy.

3.2 Review and research relevant literature to support the development of suitable content for the Health and Safety Plan

3.3 Prepare activities for inclusion in the Health and Safety Plan for the project with guidance and input from relevant stakeholders

3.4 Enhance and finalize the Health and Safety Plan for the project through a process that includes:
  i. Consultation with the PAPs, the FMEnv, Ministry of Labour, the Labour and the Private Sector;
  ii. There should be direct referencing to the World Bank relevant ESS, the Nigeria Labour Code, Health, Safety and Welfare
  iii. The selection of formatting that allows the plan to be processed and accessed by a wide variety of media/technology;

iv. Testing of the plan using an Exercise/discussion/debate that challenges/examines the versatility of the plan by introducing a wide variety of possible approaches and clients

v. Presentation of the Final plan to the employer;

4. DELIVERABLES

4.1 Inception Report with Work Implementation Plan
4.2 Pre-final Draft for testing;
4.3 Comments coming out of the discussion designed to test the plan;
4.4 Final Health and Safety Plan;

5. INPUTS OF THE EMPLOYER: (e,g REA) The REA will provide:

i. Relevant literature or documentation that the Consultant may require;
ii. Technical comments and feedback on the outputs of the Consultancy;
iii. Logistical support for convening meetings;
iv. General oversight in the roll out of the consultancy
v. Relevant literature or documentation that the Consultant may require;
vi. Technical comments and feedback on the outputs of the Consultancy;

6. CONSULTANT PROFILE

The Consultant should have the following skills:
Qualifications and Experience:

1. A minimum of Seven-Ten10 (7-10) years of experience in Emergency Response/Disaster Management;
2. A minimum of five (5) years of experience in Safety, Environmental Management or a related field.
3. A minimum of five (5) years of experience in HSE Plan Development/Project Management, or a related field.

Knowledge and Skills:
1. Demonstrated knowledge and skills in the facilitation of stakeholder consultation;
2. Demonstrated analytical and research skills in the field of Disaster Management/Emergency Response; 3. Demonstrated knowledge the World Bank ESS, the Nigeria Labour laws and local labour procedures in general;
4. Ability to manage assignments effectively – consistently ensuring timeliness and quality of work with minimum supervision;
5. Strong communication, documentation and presentation skills. The Technical Proposal should indicate at minimum:

1. Proposed approach to be taken for the roll out of the consultancy;
2. Evidence of stakeholder participation in the development of the proposed documents;
3. Timelines and methodology;
4. Curriculum Vitae of consultant and for each member of the team (if a team approach is utilized). Note: The financial proposal should have a detailed budget breakdown with man days for each team member identified.

7. INDICATIVE TIMEFRAME

Health and Safety plans		**Time frame** (wks/months) (w – weeks, m =month)
1	Inception report	2 wks
2	Research/stakeholders consultations	1.5 m
3	Content, Layout, Design of the plan	1 m
4	Consultation with employer and presentation	2 wks
5	Presentation of final Report	1 w
Total	3 months and 3 weeks	

Note: All other expenses are to be included in the financial report.

8. DURATION

The Consultancy is estimated to be no more than 4 months in total

9. APPLICATION

Interested persons should submit a proposal based on the Terms of Reference outlined.
above complete with:

i. Full Curriculum Vitae (with two professional references);
ii. Proposed work schedule and description of approach/methodology for performing the assignment.
iii. Demonstrated knowledge and skills in stakeholder participation techniques; as well as strong communication, documentation and presentation skills.
iv. A Technical Proposal should be submitted to include at minimum the proposed approach to be taken to roll out the consultancy, evidence of stakeholder participation of the proposed documents, timelines, and Curriculum Vitae of the consultant and for each member of the team (if a team approach is utilized)

Annex IV: Sample Grievance Register Form

Name (Filer of Complaint): _____
ID Number: _____ (PAPs ID number)
Contact Information: _____ (Village; mobile phone)

Nature of Grievance or Complaint:

_____

_____

Date	**Individuals Contacted**	**Summary of Discussion**
_____	_____	_____

Signature: _____ Date: _____

Signed (Filer of Complaint): _____
Name of Person Filing Complaint: _____ (if different from Filer)
Position or Relationship to Filer: _____

Review/Resolution

Date of Conciliation Session: _____

Was Filer Present?: Yes No

Was field verification of complaint conducted? Yes No

Findings of field investigation: _____
_____
_____

Summary of Conciliation Session Discussion: _____
_____
_____ Issues _____
_____

Was agreement reached on the issues? Yes No

If agreement was reached, detail the agreement below:
_____

If agreement was not reached, specify the points of disagreement below:
_____

Signed (Conciliator): _____ Signed (Filer): _____

Signed: _____
Independent Observer

Date:_____

Annex V: Environmental and Social Screening Checklist

The Environmental and Social Screening (ESSC) checklist has been designed using the World Bank Environmental and Social Standards, and Nigerian EIA guidelines as checklist benchmarks to assist in the evaluation of proposed sub-projects under the REA. The checklist is designed to place information in the hands of reviewers so that mitigation measures, if any, can be identified and/or that requirements for further environmental analysis be determined. The ESSC also identifies potential socioeconomic impacts that will require mitigation measures.

Table III-1. Environmental and Social Screening Checklist

Issues		**Site Sensitivity**		**Responsibilities**
	Low	**Medium**	**High**	
Natural Habitats	No natural habitats present	No critical natural habitats; other natural habitats occur	Critical natural habitats present	REA-PMU, Developers
Water quality and water resource availability and use	Water flows exceed any existing demand; low intensity of water use; potential water use conflicts expected to be low; no potential water quality issues	Intensity of water use; multiple water users; water quality issues are important	Intensive water use; multiple water users; potential for conflicts is high; water quality issues are important	REA-PMU, Developers
Natural hazards vulnerability, floods, soil stability/ erosion	Flat terrain; no potential stability/erosion problems; no known volcanic/seismic/ flood risks	Medium slopes; Some erosion potential; medium risks from volcanic/seismic/ flood/ hurricanes	Mountainous terrain; steep slopes; unstable soils; high erosion potential; volcanic, seismic, or flood risks	REA-PMU Independent Consultants
Cultural Property Involuntary resettlement	No known or suspected cultural heritage sites Low population density; dispersed population; legal tenure is well-defined water rights	Suspected cultural heritage sites; known heritage sites in broader area of influence tenure; well-defined water rights	Known heritage sites in project are Land issues, High population density; major towns and villages; low-income families and/or illegal ownership of land; communal properties; unclear water rights	REA-PMU Developers

1. Site Selection:

When considering the location of a sub-project, rate the sensitivity of the proposed site in the following table according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They do indicate a real risk of causing undesirable adverse environmental and social

effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate, or manage potential effects

2. Checklist questions:

Physical data: *Yes/No answers and bullet lists preferred except where descriptive detail is essential.*

Site area in ha
Extension of or changes to existing alignment

Any existing property to transfer to sub-project
Any plans for new construction

Preliminary Environmental Information:	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
State the source of information available at this stage (i.e., proponent's report, EIA, or other environmental study)	
Has there been litigation or complaints of any environmental nature directed against the proponent or sub-project?	

Identify type of activities and likely environmental impacts:	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
What are the likely environmental impacts, opportunities, risks, and liabilities associated with the sub-project?	

Determine environmental screening category:	*Bullet lists preferred except where descriptive detail is essential.*
After compiling the above, determine which category the subproject falls under based on the World Bank environmental categories A, B, and C and the Nigerian categories are High, substantial, moderate & low.	

Mitigation of Potential Pollution:	*Yes*	*No*
Does the sub-project have the potential to pollute the environment or contravene any environmental laws and regulations?		
Will the sub-project require pesticide use?		
If so, then the proposal must detail the methodology and equipment incorporated in the design to constrain pollution within the laws and regulations and address pesticide use, storage, and handling		
Does the design adequately detail mitigating measures?		

Environmental Assessment Report or environmental studies required:	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
If screening identifies environmental issues that require an EIA or a study, does the proposal include the EIA or study?	
Indicate the scope and time frame of any outstanding environmental study.	
Required Environmental Monitoring Plan:	
If the screening identifies environmental issues that require long term or intermittent monitoring (e.g., effluent, gaseous discharges, water quality, soil quality, air quality, noise), does the proposal detail adequate monitoring requirements?	
Public participation/information requirements:	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
Does the proposal require, under national or local laws, the public to be informed, consulted, or involved?	
Has consultation been completed?	
Indicate the time frame of any outstanding consultation process	

Land and resettlement:	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
What is the likelihood of land purchase for the sub-project?	
How will the proponent go about land purchase?	
What level or type of compensation is planned?	
Who will monitor actual payments?	
Actions:	
List outstanding actions to be cleared before sub-project appraisal	
Approval/rejection	*Yes/No answers and bullet lists preferred except where descriptive detail is essential.*
If proposal is rejected for environmental reasons, should the subproject be reconsidered? What additional data would be required for re-consideration?	

Annex VI: Environmental and Social Management System Template for Mini Grid Developers

Mini grid Developer Logo	Issue Number	Issue Date

Document Number	Document Pages

Environmental and Social
Management System Manual

Approved by:		
Name	Title	Date

Abbreviation

CBO	Community-Based Organization
E&S	Environmental and Social
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
GRM	Grievance Redress Mechanism
LRP	Livelihood Restoration Plan
NGO	Non-Governmental Organization
RAP	Resettlement Action Plan
REA	Rural Electrification Agency (Nigeria)
SIA	Social Impact Assessment

Table of Contents

Introduction

The Environmental & Social Management System (ESMS) is a set of principles, requirements, processes, and tools that help integrate environmental and social risk management into a mini grid developer's core business process. It is a set of actions and procedures that are implemented with the developer's existing risk management procedures.

The ESMS ensures that the mini grid developer's activities are in compliance with its own environmental and social commitments, national regulations of the country(ies) where they operate and environmental and social standards of international lenders and investors. It helps the developer to avoid and manage projects with potential environmental and social risks by conducting due diligence during design, construction, and operation of mini grids and adequate monitoring of projects during construction and operation.

Activity 1: *In the section below draft the environmental and social policy for your company.*

I. Institutional Environmental & Social Policy Statement

Please make sure to include your institution's commitment to the following:

- ✓ *Full compliance to applicable E&S requirements:*
  - *Laws & Regulations of Nigeria & areas of construction/operation including prohibition of Gender Based Violence (GBV) / Sexual Exploitation and Abuse (SEA)*
  - *Exclusion List (See Annex A);*
  - *E&S standards of lenders, investors and shareholders*

- ✓ *Commitment to dedicate capacity and resources to implement and maintain the ESMS, including:*
  - *Establish dedicated environmental department/ unit/ E&S Manager or Coordinator within the institution.*
  - *Senior management involvement and commitment to E&S compliance*
  - *Provide internal training/capacity building on E&S issues including GBV and code of conduct to relevant staff (such as engineers, site managers, construction managers, contractors etc.), including on:*
    - *Screening of investments for potential environmental and social impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options; steps 1-7 to implement the environmental and social screening process for projects;*
    - *Environment: site selection to minimize environmental impacts and social disruption; mitigation measures for contractors and subcontractors (through adequate language in contracts); management of impacts during construction; monitoring of effectiveness of measures;*
    - *Monitoring and grievance redress: transparency and supervision responsibilities including specifics on confidential reporting with safe and ethical documenting of GBV cases and referral to appropriate GBV service providers.*

- ✓ *Commitment to maintain good track record on E&S compliance, including:*
  - *Establish and maintain a Grievance Redress Mechanism & keep proper records of complaints received and resolution of each one.*
  - *Good record keeping for any incidents of legal E&S non-compliance, fines, or complains including compliance to staff code of conduct.*
  - *Reporting to relevant government agencies (such as Rural Electrification Agency), lenders, investors, including prompt reporting of any incidents, accidents, or GBV/SEA related cases.*

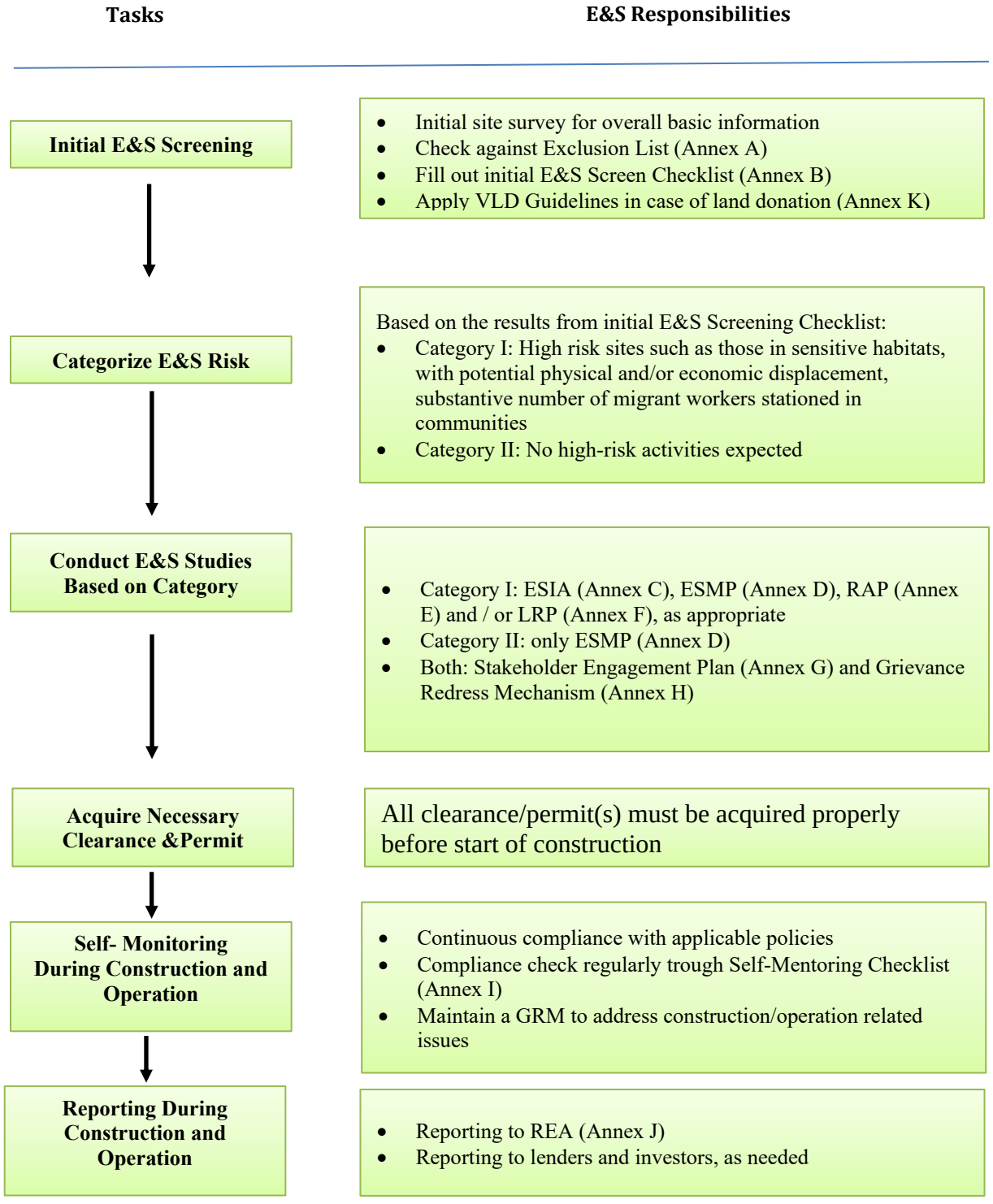
ACTIVITY 2: *In the following sections please draft the E&S procedures for your company: transaction screening, risk categorization, and E&S due diligence.*

II. Environmental &Social Procedures

2.1 Overall Workflow

The workflow chart below demonstrates the steps and E&S roles during the mini grid design, development, construction, and operation cycle.

Overall Workflow for Mini grid Development



2.2 Initial E&S Screening

Before any construction or preparation of construction can start, the institution should conduct an initial E&S screening before or during project design stage, to (1) ensure the proposed construction site is not under any situation in the Exclusion List (Annex A); and (2) identify any E&S issues and mitigation opportunities. See Annex B for a Sample Checklist for the Initial E&S Screening.

1. Purpose and applicability:
- ✓ *What are the E&S procedures expected to achieve?*
- ✓ *What activities of the company do they cover?*

2. Definitions: *(terms and descriptions)*

3. Procedure:
- ✓ *What course of action is taken if a proposed construction is under the Exclusion List?*
- ✓ *How will E&S risks and impacts be assessed?*
- ✓ *How will projects be categorized based on E&S risks (see 2.3 below)*
- ✓ *What is the process for further assessment of category I projects?*
- ✓ *What is the process for preparing and implementing E&S management plans?*
- ✓ *What course of action should be taken if other significant E&S issue including GBV/SEA are identified or maybe a potential?*
- ✓ *How will compliance with E&S management plans be monitored?*

4. Responsibilities:
- ✓ *Who is responsible for carrying out each of the activities described under this procedure?*

5. Reference documents:
- ✓ *What reference documents do you use (internal policies, national laws and regulations, lender/investor requirements, international good practice guidelines)?*

6. Records:
- ✓ *What records on E&S compliance do you keep?*

2.3 E&S Impacts Categorization

Based on the results of the initial E&S Screening, all mini grid projects should be divided into two E&S Impacts Categories:

- Category I: with significant E&S impacts. High risk sites such as those in sensitive habitats, with potential physical and/or economic displacement, substantive number of migrant workers stationed in communities.
- Category II: No high-risk activities expected, overall medium or low E&S impacts.

1. Procedure:
- ✓ *What course of action is taken if a category II is later considered to have significant E&S impacts during the E&S planning stage or construction stage?*

2.4 E&S Risk Management Instruments for Category I Mini grids

Projects under this category are expected to have significant E&S impacts, such as (this list is not exhaustive, and a combination of all project impacts should be considered based on their likelihood and magnitude):

- Any physical and/or economic displacement
- Significant adverse impacts on ecologically sensitive areas
- Significant adverse impacts on cultural heritage
- Significant number of migrant workers/ labor camps within host communities (may be especially an issue for larger mini grids or clusters of mini grids)

Due to the potential significant adverse E&S impacts, construction under this category will have to complete the following E&S studies during the preparation stage:

- ESIA (Annex C)
- ESMP (Annex D)
- Resettlement Action Plan (RAP) (Annex E) and / or Livelihood Restoration Plan (LRP) (Annex F), where physical and/ or economic displacement may be involved.
- Stakeholder Engagement Plan (Annex G)

The ESIA describes possible adverse effects that the proposed subproject may pose to the environment. It recommends mitigation measures and how will they be implemented. The ESMP – either as an accompanying chapter of the ESIA, or as a stand-alone document, provides detail on how the recommended mitigation measures will be implemented and outlines requirements, institutional arrangements/responsibilities, timelines, estimated costs and sources of funds for management and monitoring of both positive and negative effects of the project.

The key environmental and social concerns related to mini grid construction and operation include the following and special care needs to be taken for preparing an ESIA and ESMP:

- Ambient Air Pollution
- Surface and groundwater water quality
- Noise pollution.
- Traffic management.
- Labor management (labor camps, worker accommodation, community impacts of migrant workforce).
- Occupational health and safety issues for workers
- Interactions between workers and communities (e.g., HIV/AIDS issues)
- Community engagement, benefits sharing.
- Drainage.
- Riverbank erosion
- Wetland or other sensitive habitats deterioration.
- Land degradation.
- Loss of land/ structures/assets/crops.
- Displacement of people or economic / livelihood activities.
- Sexual Abuse and Exploitation and Sexual Harassment (SEA/SH).

In case the project requires involves land acquisition, restriction of access to assets or loss of livelihood or shelter, the company shall ensure that a satisfactory RAP and/or LRP has been prepared consulted upon with the affected persons / local community, approved and disclosed

a required. The institution shall not start the works until compensation and resettlement assistance has been made available in accordance with RAP and/ or LRP.
RAP/LRP document provides a link between the impacts identified and proposed mitigation measures to realize the objectives of involuntary resettlement. The RAP/LRP will take into account magnitude of impacts and accordingly prepare a resettlement plan that is consistent with national and local standards and requirements.

The RAP/LRP also needs to be disclosed and consulted during timely stakeholder engagement. Stakeholder engagement is about building and maintaining constructive relationships over time. It is an ongoing process between a company and its project stakeholders that extends throughout the life of the project and encompasses a range of activities and approaches, from information sharing and consultation, to participation, negotiation, and partnerships. The goal is to ensure the timely provision of relevant and understandable information. It is also to create a process that provides opportunities for stakeholders to express their views and concerns and allows the company to consider and respond to them.

Before any actual construction can begin, all necessary government and non-governmental clearance and permit(s) must be acquired properly and timely.

1. Purpose and applicability:

2. Definitions: *(terms and descriptions)*

3. Procedure:
- ✓ *What course of action is taken if a category II is later considered to have significant E&S impacts during the E&S planning stage or construction stage?*
- ✓ *What course of action is taken if there is material disagreement between the company's proposal and the feedback from the stakeholder engagement?*

4. Responsibilities:
- ✓ *Who is responsible for carrying out each of the activities described under this procedure?*

5. Reference documents:
- *What reference documents do you use (see Annexes for templates/samples)?*

6. Records:
- *What records do you keep?*

2.5 E&S Risk Management Instruments for Category II Mini grids

For constructions with perceived medium or low E&S adverse impacts, only the ESMP is needed.

Before any actual construction can begin, all necessary government and non-governmental clearance and permit(s) must be acquired properly and timely.

1. Purpose and applicability:

2. Definitions: *(terms and descriptions)*

3. Procedure:

- ✓ *What course of action is taken if a category II is later considered to have significant E&S impacts during the E&S planning stage or construction stage?*
- ✓ *What course of action is taken if there is material disagreement between the company's proposal and the feedback from the stakeholder engagement?*

4. Responsibilities:
- ✓ *Who is responsible for carrying out each of the activities described under this procedure?*

5. Reference documents:
- ✓ *What reference documents do you use (see Annexes for templates/samples)?*

6. Records:
- ✓ *What records do you keep?*

2.6 Self-Monitoring Activities

Once the construction has started, and throughout construction and operation, the institution is committed to continuous compliance to its ESMP and all applicable E&S policies including GBV/SEA and requirements. To achieve that, the institution is committed to conduct regular self-monitoring activates. See Annex G for sample self-monitor checklist.

1. Purpose and applicability:

2. Definitions: *(terms and descriptions)*

3. Procedure:
- ✓ *What course of action is taken if there is a potential violation?*
- ✓ *What course of action is taken if there is an actual violation?*

4. Responsibilities:
- ✓ *Who is responsible for carrying out each of the activities described under this procedure?*

5. Reference documents:
- ✓ *What reference documents do you use (see Annexes for templates/samples)?*

6. Records:
- ✓ *What records do you keep?*

2.7 Grievance Redress Mechanism

The institution will set up a project -specific Grievance Redress Mechanism for people to report concerns or complaints, if they feel unfairly treated or are affected by any of the subprojects.

The mechanism will amongst other things: (a) provide information about project implementation; (b) provide a forum for resolving grievances and disputes at the lowest level;(c) resolve disputes relatively quickly before they escalate to an unmanageable level;(d) facilitate effective communication between the project and affected persons; (e) win the trust and confidence of project beneficiaries including GBV survivors and stakeholders and create productive relationships between the parties; (F)Reporting mechanisms- through community consultations with women and girls will define reporting mechanisms that they feel are safe and are accessible (g). Training of GRM operators on survivor centered approach and how to

respond to incidents (h). Providing survivors with timely quality care (i). Ensuring there is a clear accountability framework for who will be responsible for what, and what repercussions to the perpetrator may be. The GRM will not investigate or hold the perpetrator accountable, but they will be responsible for monitoring the contractor's response and ensuring its appropriate and aligned with the Code of Conduct (CoC). The mechanism is envisaged to be at multiple levels and will address such complaints, including logging, tracking, and resolving grievances promptly during and after the implementation of the Project. In the resolution of GBV complaints, all applicable laws and policies will be followed, including any labor laws and agreements, and any legal requirements for mandatory reporting (e.g., to the police) of cases involving children or women.

The institution will have dedicated person or unit to be responsible for setting up and maintaining the GRM that allows general public in the project area and affected communities or individuals to file complaints and to receive responses in a timely manner. The system will also record and consolidate complaints and their follow-up. This system will be designed for handling complaints perceived to be generated by the project or its personnel. It may also include disagreements about compensation and other related matters such as gender-based violence, sexual harassment and sexual exploitation and abuse.

1. Purpose and applicability:

2. Definitions: *(terms and descriptions)*

3. Procedure:
- ✓ *What is the workflow for receiving, recording, reviewing, and responding to complaints?*
- ✓ *How will the log of grievances be maintained?*
- ✓ *How will complaints and concerns be taken into account in company's operations?*

4. Responsibilities:
- ✓ *Who is responsible for carrying out each of the activities described under this procedure?*

5. Reference documents:
- *What reference documents do you use (see Annexes for templates/samples)?*

6. Records:
- *What records do you keep?*

2.8 Reporting to REA during Construction and Implementation

It is the mini-gird developer's responsibility to submit timely and factual reports to the Rural Electrification Agency (REA) based on the mandatory and/or agreed-upon reporting requirements. Its reporting duties include (see Annex J for Sample Regular E&S Report to REA):
- ✓ Progress on implementation of the ESMS, including categorization of all projects and any ESIAs, ESMP and RAP and/or LRP prepared over the reporting period (where required);
- ✓ Regular periodic E&S reports as specified in the Operating Guidelines;
- ✓ Prompt reporting – within three days if occurrence, of any social, labor, health and safety, security or environmental incident, accident or circumstance which may have any material impact on the compliance of the applicable E&S requirements.

In addition, developers may be requested to:

- ✓ Provide feedback when requested by REA through questionnaires, evaluation workshops, etc.;
- ✓ Participate, if needed, in discussions with the PMU, REA and any investor (if applicable) throughout the project.

Annex A: Sample Checklist for Initial **Environmental and Social Screening**

The purpose of this checklist is to identify potential environment and social issues related to project development, construction, and operation.

(A) Project Background

1.	Name of Proposed Project	
2.	Location	
3.	Size of the Community (Population)	
4.	Project objectives	
5.	Brief description of the project	
6.	Capacity or size of the project	
7.	Number of Solar Panels	
8.	Capacity per solar panel	
9.	Powerhouse area, m^2	
10.	Distribution length, m	

(B) Project selection criteria

Sl. No	**Screening Question**	**Yes**	**No**	**Comments** (In the case select "yes", provide detailed information)
1.	Are there any activities on the REA **Exclusion Criteria for Mini-Grid and Power Generation Sites**?			
2.	Is there indication of: a. Significant adverse impacts on ecologically sensitive areas[23] b. Involuntary resettlement or economic displacement c. Significant adverse impacts on cultural heritage			
3.	If yes, can these impacts be eliminated or reduced to acceptable levels through adequate application of mitigation measures?			

(C) Environmental and Social Screening

[23]Significant adverse impacts on ecologically sensitive areas will be determined using international best practice and tools, as well as based on the outcomes of relevant studies within the ESIA.

Sl. No	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
	Project's siting			
1.	Define project's boundaries and area of influence			
2.	Is the project site adjacent to or within any of the following sensitive receptors?			
	i. Natural habitats and/ or legally protected areas (wetlands, forests, estuary, buffer zones, nature reserves); if yes, is there possibility of a critical habitat present[24]?			
	ii. Cultural heritage site			
	iii. Fragmentation of habitat of flora and fauna (Avifauna and mammalian fauna)?			
	iv. Is the proposed site located on agricultural land?			
	v. Is the proposed site located on area used by vulnerable groups			
	vi. Unique or aesthetically valuable land			
	vii. Is the proposed site located nearby airport			
	viii. Is the proposed site located in migratory route of birds			
	Potential Environmental Impacts			
1.	Impacts on natural resources that constitute livelihoods of community (e.g. grazing or hunting grounds)?			
2.	Disfiguration of landscape?			
3.	Is there potential for landslide and soil erosion impacts?			
4.	Increase in waste generation?			

[24] Critical habitat is defined based on global good practice as a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value that meet the criteria of the World Conservation Union (IUCN) classification, including habitats of significant importance for required for critically endangered or endangered species as defined by the IUCN Red List of Threatened Species; habitats of significant importance for endemic or restricted-range species; habitats supporting globally significant concentrations of migratory species and /or congregatory species; areas with unique assemblages of species or which are associated with key evolutionary processes. Primary Forests or forests of High Conservation Value shall be considered Critical Habitats. This includes HCV forests. HCV areas do not directly correspond with definitions for modified, natural, and critical habitat. The HCV Resource Network, an internationally recognized group, provides information and support on the evolving usage of HCV to ensure a consistent approach. https://www.hcvnetwork.org/.

Sl. No	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
5.	Waste water from camping sites to be directly discharged to the surface water resources or not?			
6.	Construction waste directly discharged to the surface water?			
7.	Other potential biodiversity impacts (specify)?			
8.	Loss or destruction of unique or aesthetically valuable land			
9.	Disturbance of large areas due to material quarrying			
10.	Disposal of large quantities of construction spoils			
	Potential Community and Occupational Health and Safety Impacts			
1.	Will the construction works disturb other commercial/community/residential activities?			
2.	Will the project create major noise/vibration?			
3.	Closest residence to the solar panel			
4.	Will it create dust problem around the sites?			
5.	Will project's construction cause disturbance to the transportation in the project's site?			
6.	Will batteries be removed/disposed (lead-acid or nickel-cadmium batteries) from battery-powered or battery-backup items?			
7.	Will there be social conflict in case of workers hired from other region?			
	Potential Social Impacts			
8.	Permanent land acquisition			
9.	Temporary land acquisition			
10.	Type of land Private land Public land Government land Leasehold land			
11.	Type of land procurement			

Sl. No	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
	Voluntary land donation (VLD)[25] Involuntary acquisition Negotiation			
12.	Loss of productive land			
13.	Impacts on livelihoods/ economic displacement?			
14.	Is there any household need to be relocated?			
15.	Is the resettlement site environmentally and/or culturally sensitive?			
16.	Project's construction will cause any damage to the existing local roads system?			
17.	Will soil excavation during project's construction cause soil erosion?			
18.	Will project need to open new access roads?			
19.	Will project cause encroachment on historical/cultural/religious areas?			
20.	Acquisition of private land leading to loss of shelter and livelihood			
21.	Involuntary land taking resulting in loss of income, livelihood, sources of livelihood, loss of access to common property resources and/or private residential and/or property resources			
22.	Adverse impact to women and girls including economic and safety concerns			
23.	Cultural, gender, and social norms and practices, particularly those which are harmful to women and girls that would be exacerbated as a result of project implementation.			
24.	Possible conflicts with and/or disruption to local communities			
25.	Any significant issues raised by the stakeholders during consultation			

[25] Voluntary land donation is strictly defined in international practice as the ceding of a property by an owner who is: a) fully informed; and b) can exercise free will, i.e., can refuse to sell or to donate. "Fully informed" means that the owner has complete information regarding the proposed activity and its impacts, its land requirements and its alternate activity sites, as well as his or her rights to compensation. The owner has also been provided with sufficient time to consider his or her disposition of the property, and the owner has knowingly rejected the right to renege on his or her initial decision. "Free will" means that the owner can reject the possibility of giving up his or her land.

Sl. No	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
	including potential impacts of GBV/SEA			
26.	Uncontrolled human migration into the area, made possibly by the subproject activities and risk of GBV/SEA			
27.	Disproportionate impacts on the poor, children and other vulnerable groups			
28.	Community health and safety risks due to the transport, storage, and use and/or disposal of materials likely to create physical, chemical and biological hazards			
29.	Risks to community safety due to both accidental and natural hazards during project construction and operation			

Annex B: Sample Environmental and Social Management Plans (ESMP)

The Environmental and Social Management Plan (ESMP) clearly laid out: (a) the measures to be taken during both construction and operation phases of the project to eliminate or offset adverse environmental impacts or reduce them to acceptable levels; (b) the actions needed to implement these measures; and (c) a monitoring plan to assess the effectiveness of the mitigation measures employed.

The following table provides generic examples of common mitigation measures for various identified impacts which would be found in a typical ESMP. The table should be considered as generic guidance only; actual mitigations and management measures will need to be confirmed on a subproject basis as part of the ESIA process.

Generic Examples of Environmental Mitigation Measures in ESMP

Issue	Key Principle/Mitigation Standard	Mitigation Measures
General Issues:		
Water supply affecting ecology or neighboring community water supply.	Camp to provide its own water supply that does not affect village water supply.	Any water supply sources should be located so that it does not adversely affect the villages supply. The intake of water from streams for water supplies should leave residual flows in the watercourses. Storage tanks should be used to buffer water supplies.
Wastewater discharges affecting water quality	Wastewater to be treated prior to discharge.	Sewerage disposal methods should be designed to the standards outlined by the government
Solid waste polluting the environment and causing health hazards	No waste to be burnt or buried on site.	All solid wastes shall be removed from site and disposed of at a landfill.
Affected community health & safety	Avoid adverse impacts from both routine and non-routine circumstances	Evaluate the risks and impacts during project life-cycle; establish preventive and control measures; prepare emergency preparedness and response.
Labor Issues:		
Fairness of employment	Promote the fair treatment, non-discrimination, and equal opportunity	It will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The same employment treatment and career opportunities will be offered to both male and female employees non-discriminatingly.
Terms of employment	Establish, maintain, and improve the worker-management relationship	Adopt proper HR policies and procedures; provide workers with documented information that is clear and understandable, regarding their rights under national law. Provide and inform workers of an internal grievance process for workplace concerns.
Force labor and/or child labor	Not employ forced labor or child labor.	All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring on health, working conditions and hours.
Employment of migrant vs. local labor	Compliance & fair treatment	Comply with national and local migrant worker regulation; employ only legal migrant workers; fair treatment to all workers.
Management of migrant labor	Ensure safety and fair treatment	Prevent labor camps, provide decent workers accommodation, and prepare measures to gender-based violence /sexual exploitation and HIV/AIDS issues
Occupational health & safety	Promote safe and health working conditions, and the health of workers	Provide a safe and healthy work environment, consider inherent risks, hazards, and specific threats to women. Take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work.

Issue	Key Principle/Mitigation Standard	Mitigation Measures
General Construction Issues:		
Noise of machinery associated with construction activities	Noise shall not unreasonably intrude on traditional village life.	Keep a current list of all noise producing machinery and noisy activities; Operate machinery only during designated hours in agreement with local communities; Adopt a grievance mechanism that will enable capturing and addressing issues upfront Work to be carried out in daylight, in typical working hours. Concrete batching plants and other noisy equipment to be located as far as practical from settlements
Dust generation from construction activities	Dust shall not cause a hazard or nuisance to village life.	Dusty operations to occur only during designated hours. Adopt a grievance mechanism. Concrete batching plants and other dusty equipment to be located as far as practical from settlements.
Vibration disturbance from construction activities	Vibration shall not unreasonably intrude on traditional village life.	Keeps a list of all vibration producing machinery and activities causing vibration. This machinery operation to occur only during designated hours (to be confirmed by contractor in agreement with villages). Use of complaints register and procedures to address issues as they arise.
Increased utilization of roads by traffic associated with construction activities	There should be no significant increased risk to local populations from traffic associated with the development.	Road upgrades, including signage, speed humps, re-grading. Training of locals regarding the hazards of traffic. Training of vehicle drivers regarding the driving risks through villages and along remote roads. Use of complaints register and procedures to address issues as they arise.
Pollution risk activities occurring on site	Develop appropriate storage, transport and use practices for storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers. There shall be no solid or liquid waste disposal directly or indirectly to any water course (whether flowing or not).	Keeps a current list of all potentially contaminating materials used on site. Develop and implement appropriate storage, transport and use practices to recognized standards. Solid waste disposal shall be taken off site.
Excavation and Blasting:		
Noise disturbance of local populations	Noise shall not unreasonably intrude on traditional village life.	Keep lists of all noise producing equipment. This machinery operation to occur only during designated hours (to be confirmed by contractor in agreement with villages). Blasting to occur at the same time each day, and / or a warning siren should sound prior to blasting.
Vibration disturbance of local populations	Vibration shall not unreasonably intrude on traditional village life.	Keep current lists of all vibration producing machinery. This machinery operation to occur only during designated hours (to be confirmed by contractor in agreement with villages). Blasting to occur at the same time each day, and / or a warning siren should sound prior to blasting
Material Stockpiling:		
Runoff of suspended sediments from stockpiles	Stockpiling activities should not give rise to storm water containing elevated suspended solids.	No direct discharge of sediment laden water without treatment. Stockpiles should be compacted as much as practical and not be exposed for extended periods.

Issue	Key Principle/Mitigation Standard	Mitigation Measures
	Provide treatment to achieve 75% reduction in suspended solids.	Storm water should be diverted around stockpiles.
Dust generation from stockpiles	Dust shall not cause a hazard or nuisance to village life.	Stockpiles should be compacted and not exposed for extended periods. Stockpiles should be reused as soon as practicable.
Soil / Overburden Removal and Placement:		
Generation of suspended solids from bare ground and runoff into watercourses	Development activities should not give rise to storm water containing elevated suspended solids. Provide treatment to achieve 75% reduction in suspended solids.	No direct discharge of sediment laden water without treatment. Earthworks and land clearance should be minimized and phased. Any discharges to watercourses should occur during high flow and / or discharged as close to the outfall as possible to maximize mixing. Stockpiling should occur at least 10m from a water course. Re-vegetation of exposed areas as soon as practicable. Timing of works around the drier seasons where possible. Provision of storm water cut off drains wherever possible.
Introduction of invasive species	Fill material should not contain invasive species.	The use of imported fill shall be minimized. Machinery should be cleaned prior to working on site to reduce the opportunity of the spread of weed seeds.
Disturbance of natural habitats for spoil / alluvial material.	Soils should be reused where possible in the development – to reduce the need for spoil sites and the need to import fill.	Stockpile and reuse soils before excavating new soils / alluvium.
Efficiency of control measures over time	Control measures should continue to work appropriately throughout the construction period.	Earthworks control measures should be inspected and maintained in efficient operating condition over the construction period.
Community nuisances.	Noise and dust shall not unreasonably intrude on traditional village life.	Concrete batching plants and other noisy / dusty equipment to be located as far as practical from villages.
Works in and near Rivers:		
Sediment discharges arising from working in and near the river. For blasting in or near the river, refer to the blasting issues, above.	Work in the wetted area of the riverbed should be minimized, and only in relation to the construction of the power house, weir and intake structure or to insert culverts for stream crossings.	Stabilize works at the end of each working day and prior to storm events. Do the work during low flow periods. Works shall be minimized. Diversion of the river around the work area where possible.
Community impacts:		
Key Considerations for a Communication Strategy to avoid deterioration of current quality of life and traditional livelihoods	Communication channels are established between Villagers, Construction Supervisors, and state PCUs to facilitate information flow and easier process for lodging complaints	Set up a communication network for discussing issues between contractors and the villagers and the state PCUs built on recognized negotiation structures. Contractors will have an Environmental Specialist, OHS Specialist, and Social Specialist on site to ensure conformance with environmental health and safety guidelines and to respond to complaints. A Health Program - as well as measures for prevention of gender-based violence, sexual exploitation, and HIV/AIDS - to be included in the Contractor's Construction and Workers Camp

Issue	Key Principle/Mitigation Standard	Mitigation Measures
		Management Plan. This will be made available to the communities. Education and orientation of outside workers to local culture and social norms before the start of work. Camps to be self-sufficient in resources and services. (Refer to the workers camp table below) Villagers shall be adequately informed of all potential hazards to health and safety with regards to increased traffic, blasting, machinery operation
Labor influx and gender-based violence, sexual exploitation	Labour influx management plans to ensure that SEA/SH risks are managed.	Sensitization campaigns for workers and communities, with special emphasis on vulnerable groups (such of women) Code of conduct and training for workers and managers on the construction sites Locations of labor camps away from sensitive receptors in communities (e.g., schools)
Traffic causing safety risks to road users	Construction traffic will be managed to minimize the impact on existing road users.	Signage to be used to identify current risks to road users. Construction Supervision consultancy and Contractors to discuss major traffic issues with village representatives prior to the event to discuss course of action. Heavy traffic to avoid the hours when school children walk to and from school.
Sediment affecting river water uses.	Sediment discharges to the river shall be minimized.	Refer to the sections above discussing erosion and sediment control.

The table below provides another example of how an ESMP typically would present the association between project activities, their impacts, the specified mitigation measures, institutional arrangements and costs for their implementation.

Sample ESMP Responsibilities and Costs

Project Activity	Potential Impacts	Proposed Mitigation Measures	Institutional Responsibility	Estimated Costs
Use of land within mini grid construction area and along the transmission line route	Damage to vegetation	Appropriate clearing techniques (hand clearing, not mechanized clearing) will be utilized. Any trees of protected species will be relocated. In case relocation is not possible, the project developer will pay a special fee to the local environmental fund.	Contractor/ Operating Company	
Use of land within mini grid construction area and along the transmission line route	Loss of fertile topsoil and soil erosion	Fertile topsoil will be removed, stored in an isolated area away from construction activities, and covered with plastic to prevent runoff/erosion. Upon construction completion, topsoil will be returned, and the area revegetated with plants similar to the original vegetation/native to the area.	Contractor/ Operating Company	

Project Activity	Potential Impacts	Proposed Mitigation Measures	Institutional Responsibility	Estimated Costs
Construction works	Air pollution by dust	When necessary, construction site will be sprayed with water, particularly during hot, dry, windy conditions.	Contractor/ Operating Company	
Construction works	Noise from construction works	Construction will be confined to normal work-hours (8AM to 6PM). If construction needs to be conducted before/after these hours, local public will be notified at least one week in advance.	Contractor/ Operating Company	—

Annex C: Sample Self-Monitor Checklist

Issues/aspects	Location	Mitigation measure	Key verifiable indicator	Person responsible	Remarks	Cost (Nigerian naira)
Construction						
1.						
2.						
Etc.						
Operation						
1.						
2.						
Etc.						

Annex D: Sample Regular E&S Report to REA

Name & Address of Mini grid Developer (the Company)			
Completed by (staff name, E&S manager/ coordinator):			
Contact Person Phone #:		Email:	
Position in Company:		Date:	
Reporting Covering From:		**To:**	

1. Portfolio & Pipeline Operations: Please provide details on each mini grid that is in any phase: planning, construction, operation, or decommission (add rows if needed)

Mini grid Location & Phase	E&S Category (I or II)	Category justfication	E&S Instruments Prepared	Key E&S Risks	Compliance with Laws & Regulations (list clearances obtaoned and dates)	Sites fall under E&S Exclusion criteria for mini grid and power generation sites (Y/N?) *If yes, provide details*

3. Land Acquisition Details

Mini grid Location	Is involuntary resettlment or economic displacement needed? (Y/N)	Has RAP/ LRP been prepared? (Y/N)	Has community donated land to the project? (Y/N)	Type of ownernship (individual/ family or community) and amont of land donated (m2)	Has additonal land been purchased? (Y/N)	Has additonal land been leased? (Y/N)

3. Progress on ESMS Implementation

Compliance	*Yes/No*	If yes, please provide details
Has the developer encounter any difficulties and/or constraints related to the implementation of the ESMS?		
Has there been any incident or accident related to resettlement (physical and/or economic)?		
Has the company got warning and/or fines?		
Has there been any complains from affected person and communities? If yes, describe nature of complains and proposed or agreed resolution?		
Has the budget/resources to implement the proposed E&S change(s) been commited?		
Has the company conducted E&S monitoring for projects? Please describe process and outcomes.		
Have there been any updates to the company's E&S Policy?		
Is there any E&S personnel (staff or consultant) change?		
Is there any E&S staff training including training on GBV and staff code of conduct?		
Is there an internal process to report on E&S issues to senior management?		
Is there any new public communication and/or stakeholder engagement on E&S issues?*Describe specific activities during reporting period*		
Other E&S issues/concerns		
Is there any internal confidential reporting with safe and ethical documenting of GBV cases and referral to appropriate GBV service provider?		

Signature _____

Date _____

.

Annex VII: Waste and Batteries Disposal Management Approach

In Africa, many countries and communities are already struggling with contaminated sites and soil pollution from unregulated car battery recovery and recycling. Unsound end-of-life management and recycling can cause severe and even fatal lead poisoning of people working in the battery recycling sector. The health of people living around small and industrial-scale lead smelters, in particular children, are severely impacted for life. A recent report by the Lead Recycling Africa Project and Oeko-Institute revealed that already every year more than 1.2 million tons of used lead-acid batteries and 800,000 tons of lead require sound management in Africa.

Environmentally, when disposed alongside household trash, batteries end up in landfills/waste dumps. As the battery casing corrodes, chemicals leach into the ground water from where they contaminate the water bodies. Acid and lead particulates also contaminate the soil and become airborne when dry. Health-wise, cadmium and nickel are known human carcinogens, lead has been linked to birth defects and to neurological and developmental damage, and mercury is also highly toxic, especially in vapor form. Excessive levels of lead can affect a child's growth, cause brain damage, harm kidneys, impair hearing and induce behavioral problems, and in adults, lead can cause memory loss and lower the ability to concentrate as well as harm the reproductive system.

In Nigeria, there are lead-acid recycling plants, but most of these operate under conditions which are hazardous to human health and the environment. Once the used lead-acid batteries are broken open, acids are drained into the soil and the lead plates are removed, some of the lead are recycled (melted into other forms) while others are shipped abroad.

Recycling facilities in Nigeria are all informal and unregulated. A lot of batteries are imported into Nigeria on a daily basis and some of them are substandard and get to their end of life in no time. Many companies in Lagos, Ogun, Kano and Anambra States are recycling used lead acid batteries. This has created employment opportunities for many Nigerians, but the economic and social benefit has not translated to environmental and health wellbeing. Some factories even extract lead from use batteries and export to India and China.

To regulate waste management of such toxic substance, on the international level the Basel Convention26 is very important for both used lead acid batteries. Furthermore, the Secretariat of the Basel Convention has set up guidelines for a safe treatment of used lead acid batteries. In March 1989, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, and their Disposal, was adopted. The treaty entered into force in 1992. Drawing on the principles of environmentally sound management, the convention seeks to protect human health and the environment from the risk posed by hazardous wastes. This will require changing the economic equation for wastes in order to motivate the producers of hazardous wastes and people who benefit from the associated goods to take action. To do this, the convention sets out a three-steps strategy (UNEP 2002):
1. Minimizing the generation of wastes.
2. Treating wastes as near as possible to where they were generated.
3. Minimizing international movements of hazardous wastes.

The Technical Guidelines for the Environmentally Sound Management of Waste Lead-acid Batteries (source: www.basel.int) offer managers a set of best practices and principles for setting up effective systems for recycling batteries. They describe how to collect, transport and

[26] http://www.worldwidehelpers.org/wwhweb/uploads/files/KnO-100398_Recycling%20batteries.pdf

store used batteries; give specifications for the storage chambers and transport facilities; describe how batteries delivered to the recycling plant should be drained of their electrolytes, identified, segregated, and stored; explain how the recovered lead must be refined in order to remove unwanted contaminants; and address medical issues and public awareness. The Guidelines conclude that the most effective approach to collection is to rely on manufacturers, retailers, wholesalers, and service stations to retain old batteries at the time new ones are provided to the customer.

Generally speaking, good practice of lead-acid battery recycling includes:[27]

- Segregated work areas, so that process areas do not contaminate non-process or eating areas
- Comprehensive Health and Safety Polices
- Medical surveillance for all operating personnel exposed to lead operations.
- Waste water treatment facilities
- Emission control procedures
- Solid Waste Management of all smelting by-products and residues.
- A community outreach program that keeps the surrounding population aware of the secondary lead operations through effective two-way communications.

World Bank provides general guidance on waste recycling and reuse in its Environmental, Health, and Safety Guidelines. The following elements should be considered during battery recycling:

- Evaluation of waste production processes and identification of potentially recyclable materials
- Identification and recycling of products that can be reintroduced into the manufacturing process or industry activity at the site.
- Investigation of external markets for recycling by other industrial processing operations located in the neighborhood or region of the facility (e.g., waste exchange)
- Establishing recycling objectives and formal tracking of waste generation and recycling rates
- Providing training and incentives to employees in order to meet objectives.

In Nigeria, National Environmental Standards and Regulations Enforcement Agency (NESREA) is responsible for developing related guidelines.

Currently, the leading regulation is the National Environmental (Sanitation and Waste Control) Regulations S. I 28 of 2009 and the National Environmental (Motor Vehicle & Miscellaneous Assembly sector) Regulations. These regulations and others have specific provisions for Extended Producer Responsibility Programme. Regulation 6 section (2) requires that all damaged and disused components including wires, electronic devices, oil filters, batteries, types, airbags, etc., shall be amenable to recovery under the Extended Producer Responsibility (EPR) programme.

EPR is an environmental policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life. It includes the take-back, recycling and final disposal of the product including its packaging. EPR shifts the responsibility for waste management from government to private industry, obliging producers, importers and/or sellers to internalize waste management costs in their product prices and ensuring the safe handling of their products. It also offers a framework for a

[27] http://www.ilmc.org/Presentations/ABC/Recycling%20Used%20Lead%20Acid%20Batteries%3B%20A%20Model%20Life%20Cycle%20Approach.pdf

partnership approach between Government, business, and the community to work towards zero waste.

In Nigeria, EPR programs are still at its infancy stage even though the ERP regulations was introduced by the National Environmental Standards and regulations Enforcement Agency (NESREA) in 2014.

As the next step, NESREA should formally certified battery recyclers, so the developers can bring used batteries to more regulated places. It should also provide a platform to connect the recyclers and the developers. Other suggested regulatory policies include:

- enforce a ban on export of battery plates and crude lead ingots (scrap metals);
- control indiscriminate processing of used batteries; and
- control dumping of substandard batteries, especially Chinese ones.

Some developed countries and areas have comprehensive battery recycle regulations that can be learned form, such as:

- Channel Islands: In early 2009 Guernsey took the initiative by setting up the Longue Hougue recycling facility which among other functions offers a drop-off point for used batteries so they can be recycled off island.
- United Kingdom: An EU directive on batteries that came into force in 2009 - Requires Producers to pay for the collection, treatment, and recycling of batteries.
- North America: The rechargeable battery industry has formed the Rechargeable Battery Corporation (RBRC), which operates a free battery recycling.
- European Union: In 2006 the EU passed the Battery Directive - one of the aims is a higher rate of battery recycling. The EU directive gave targets of 25% for 1st year , 45% after another 4 years.

Private sector also plays an important role in managing lead-acid battery recycling. Good and profitable private sector involvement in battery recycling can also help improve the standards and practice of the informal recyclers in Nigeria. Local battery manufacturer should also be encouraged, since they will avoid the global loops of toxic materials.

Active companies with good battery recycling plans/potentials in Nigeria include, but are not limited to:

- Ibeto – Lagos: leading company in Nigeria with proper battery recycle practice
- Union Autoparts: a major battery manufacturing company in Nigeria;
- The Recycling and Economic Development Initiative of Nigeria (REDIN): a Non-Governmental Organisation involved in recycling advocacy, policy research & consultancy, etc.
- REDIN Global Resources Ltd.: subsidiary of REDIN, also engaged directly or indirectly and gradually building capacity in the waste management areas;
- Mobisol: large SHS distributor in Africa region.
- Metal Recycling Industries Ltd. that recycles the batteries for the lead and converts them to ingots for export.

For REA to better assist its NEP and DARES participating mini grid developers and SHS distributors to recycle used solar panel batteries, it should:

- conduct research by administering questionnaire on the issue of solar panel lead-acid battery usage and recycling in Nigeria;
- actively engage with NESREA on the regulatory side to improve national level regulations/policies, more specifically, to establish safe/ certified recycling facilities, regulations for recyclers (in 2-3 years when first wave of batteries come)

- establish REA's own standard / guideline for led acid battery recycling, including articulated standard for what is "safe recycling" based on international guidelines;
- develop a list of approved recyclers and request mini grid developers that are part of WB-supported program to use only those; and
- articulate and support steps for capacity building of recyclers.
- REA must see that SHS batteries must be ISO certified by the Standard Organization of Nigeria (SON)
- Ensure SHS contractors must have ability to protect their worker hence, made to show proper storage facilities for batteries and other solar components.

Annex VIII: Sample Questionnaire for Lithium-Ion Batteries Management

Name of Respondent:
Location:
Phone Number:

1. **QUANTITIES AND COSTS OF LIBs:**

A. How many LI Batteries do you need to power a solar panel?
B. How do you intend to process used LI batteries?
C. How much do you buy?
D. Do you supply to others in the sector?
E. How do you sell and to whom?
F. How are LI batteries delivered to you?
G. How are they Transported and what is your storage capacity?
H. How much does it cost to store LIB?

2. **END PRODUCT OF LIB RECYCLING:**

A. What products do you intend to extract from the LI battery?
B. Do you have already established process that could be applied?
C. Do you intend to sell the end product locally or internationally?
D. To whom do you intend to sell these end products?

3. **HEALTH, SAFETY AND POLLUTION CONTROL**

A. Would you consider this business dangerous to your health and environment?
B. How long have you been in this business?
C. Have you observed any health challenges?
D. What other waste does the business produce?
E. How do you intend to dispose or manage the(se) other waste(s)?

4. **WILLINGNESS TO INNOVATE AND MODERNIZE**

A. Do you think your current practice meets international best practice?

B. Are you in discussion with your supplier for a buyback mechanism?

B. What aspects of your business, particularly the end-of-life battery management, do you think can be developed further to assist you?

C. In your estimation, how big do you think LIB recycling would become?

D. How many people do you employ currently?

E. What are your major challenges?

Annex IX: Terms of Reference (TOR) for Consultancy Services for an Environmental and Social Compliance Audit for the Distributed Access to Renewable Energy Scale-up (DARES)

1. INTODUCTION/BACKGROUND

2. ENVIRONMENTAL AND SOCIAL COMPLIANCE AUDIT

Periodic audits of compliance with ESMPs and national law by REA geopolitical offices and project contractors are needed to ensure adequate implementation of the mitigation measures for the E&S risks described above. The exact criteria used for the audit will be based on the content of the ESMPs that will be prepared by REA as a result of E&S impact assessment process.

An E&S compliance audit shall be done through an external independent agency in accordance with these terms of reference. The audit shall be conducted by a qualified E&S auditor/ inspector/ firm with in-depth technical knowledge of the electricity transmission sector.

See Annex I for the detailed scope of compliance audit.

The objectives of E&S compliance audit will be to evaluate project activities, specially taking into account E&S regulatory frameworks, World Bank E&S standards, and environmental health and safety measures. Specifically, the objectives of the audit are:

i. To ensure compliance with the Nigeria national and local laws/regulations, World Bank E&S requirements, and other requirements (if any) as set out in the ESMF;
ii. To assess progress by Contractors in implementing the ESMF and RAPs (if any);
iii. Provide expert opinion supported by field observations on the effectiveness of the measures that have been implemented;
iv. Identify mitigation or monitoring measures that don't achieve desired results and need to be modified or replaced;
v. To advise on the financial implications related to implementation of E&S mitigation measures in terms of additional capacity strengthening that may be needed to facilitate necessary improvements;
vi. Recommend changes or additions to the ESMF, if needed;
vii. Recommend measures that will ensure compliance with best practices required for ISO 14001, ISO18001 and ISO 9001 certification; and
viii. Monitor the implementation of the measures/actions above.

Based on the findings of the audit, REA will commit to systematic incorporation of suggested improvement into its E&S risk management model.

3. CONSULTANT'S QUALIFICATIONS

The prospective Consultant should demonstrate the ability to carry out this audit with proven capability of studying and producing consistent high-quality reports and also ensure that all specific tasks in this TOR are adequately addressed in the report, with a minimum of 15 years on the job experience in the field of the assignment. The Consultant will be responsible for the

overall process and also ensure that all specific tasks of the ToR are addressed satisfactorily in the report.

The eligible Consultant(s) must have the following qualification of the personnel within the consulting team:

i. Master's degree in environmental sciences or any relevant science degree (PhD will be an added advantage).
ii. 10 years' experience in carrying out similar assignments with another World Bank financed project.
iii. Certified Environmental Auditor
iv. Certified OHS Auditor
v. Experience in Health, Safety and Environmental Auditing of Electric Utility.
vi. Good knowledge of International and Local Environmental, Health and Social legislation for the Power Sector;
vii. Certification with reputable international Environmental, Health/Safety and Social institutions e.g. (NEBOSH, IEMA, etc.)

4. DURATION OF WORK AND REPORTING

Duration: This assignment shall be completed within a period of 4 years commencing immediately after contract signing. The Consultant is expected to conduct semi-annual audits over the 4 years and each time spend at least three weeks in the project sites and in consultations with all relevant stakeholders to gather all necessary primary information.

Reporting: The Consultant shall report and work in close contact with E&S unit of the PMU and report to the Senior Environmental Specialist.

5. DELIVERABLES/PAYMENT PLAN

A comprehensive and fully referenced Report including detailed recommended actions for implementation must be submitted at the end of the assignment. The Report must contain an in-depth analysis of the issues described in the objectives and should propose clear, implementable measures towards achieving the set goals of the assignment.

s/n	Activity	Timeline *(After contract signing)*	*Payment (% of Total Remuneration)*
1.	**Acceptable Inception Report: -** This should include methodology and work plan with clearly defined strategy for carrying out the assignment with timelines for the various outputs. The report should: a. indicate the objective, scope and criteria of the audit; b. contain an audit plan for the on-site activities; c. contain the audit questionnaires; d. contain Audit Plan and logistics:	Week 4	10

s/n	Activity	Timeline *(After contract signing)*	*Payment (% of Total Remuneration)*
	- Audit scope; - Audit schedule; - Audit protocols; - Allocated resources. This should be presented in person by the Consultant at the REA-PMU office. Consultant must submit (3) hard copies and a soft copy of the inception report.		
2.	**Institutional Framework Analysis Report: -** An update on the current status of the assignment. This should be presented in person by the Consultant at the REA-PMU office. These reports should contain the Consultant's expert analysis of the following documents and outline the areas of conflict/lapses, while proffering the best options for compliance to achieve the objectives of the assignment: • REA's internal environmental policies, procedures and guidelines; • REA's quarterly monitoring reports; • Site layout plans for Subprojects and Transmission Lines; • Site history, usage and activities; • Organizational structure; • DARES ESMF • DARES RPF • ESMPs for subprojects/transmission line project • Resettlement Action Plans (RAPs) for Transmission line Review of Operational information: • Operational activities and process description; • Management system policies, procedure and program documentation; • Relevant records (compliance, monitoring, training etc.); • Other relevant information pertaining to environmental and social risk management practices.	Week 10	10
3.	**On-site Audit Activities** The on-site audit objectives should reflect those of the environmental and social compliance audit, and include: ***In-depth document review*** • Management policy; • Management system documentation; • Operational procedures; • Records (utility, inventory, monitoring, calibration, transportation, training etc.);	As determined by the Audit Plan (at least three weeks during each 6-month audit period)	10

s/n	Activity	Timeline *(After contract signing)*	*Payment (% of Total Remuneration)*
	• Previous audit reports. ***Conduct on-site meetings:*** • Present audit scope and objectives; • Outline the audit approach and methodology; • Address questions or concerns of site personnel; • Rally Staff support and assistance. ***Conduct detailed site inspections with the aid of on-site audit protocols to look for evidence of:*** • Legislative and regulatory compliance; • Internal policy and procedural conformance; • Establishment of current practice status; • Identification of improvement opportunities; • Status of operational practice; • Staff participation in management system. ***Conduct staff interview at REA geopolitical zone offices to obtain information on*** • Actual E&S practices (current and past); • Compliance with/or deviation from statutory and departmental requirements; • Awareness of requirements and expectations. ***Review audit evidence to ensure its adequacy at the conclusion of on-site audits by:*** • Reviewing information gathered; • Collecting additional information as needed; • Substantiating audit findings; • Summarizing and documenting all findings and observations; • Identifying issues requiring immediate attention/mitigation • Noting outstanding issues requiring follow-up. ***Conduct closing meetings: The closing meetings provide an opportunity at the conclusion of on-site audit to:*** • Debrief relevant REA management; • Summarize the audit activities and findings; • Highlight system strengths and weaknesses;		

s/n	Activity	Timeline *(After contract signing)*	*Payment (% of Total Remuneration)*
	• Discuss preliminary findings and recommended corrective actions; • Bring up findings requiring immediate attention; and • Clarify any outstanding issues.		
4.	**Annual Audit Report:** The post audit activities aim to produce an audit report, according to the sample outline presented in section 10.2, with audit findings and recommendations and to contribute towards formulation of a corrective action plan for continual performance improvement. The activities will focus on collating the information and follow-up on outstanding issues, as follows: • Completed pre-audit questionnaire, operational document checklists; • Completed on-site survey questionnaires, on-site audit protocols; • All relevant correspondence, memoranda, reports, diagrams and drawings; • Copies of records, photographs, and other information collected during the site visits; • Detailed inspection and interview notes and summaries. • Detailed list of findings and recommendations for improvement.	**Every 12 months**	**10x4**
5.	Update on the status of the establishment of an EMS in the REA's Management structure and Roadmap towards ISO 14001, 9001 and 18001 certification for REA Subprojects under NEP.	**Year 2 (TBC)**	10
6.	**Final Audit Report**: Final audit report will be produced at the end of the assignment and include a detailed summary of all findings, recommendations, and improvements achieved over the 4-year assignment.	**Year 4**	20

<u>Payment Plan</u>

Remuneration*:* The Contract shall be a Lump-Sum contract. Payments to the Consultant shall be percentages of the total contract sum based on specific deliverables as described in the table above.

Reimbursable: All other payments besides the professional fees shall be made only after submission of evidence of approval by the client for the Consultant to incur such costs and receipts to support the claims.

All items/equipment purchased for use by the Consultant under this contract MUST be returned to the client on completion of the assignment.

6. SCOPE OF THE AUDIT

The audit must be carried out on the ESMPs and RAPs (where they were prepared, as needed) for the existing facilities and will focus broadly on two elements:

- Compliance of existing facilities and operations with relevant environmental (including ESMS, occupational health and safety) and social laws, regulations, and applicable World Bank E&S requirements and
- The nature and extent of environmental and/or social impacts as a result of past/on-going activities under the project.
- Result of consultation with stakeholders.

The scope and depth of the audit or review should be commensurate to the E&S risks impacts. A corrective action plan will be developed if the E&S compliance audit finds that negative but manageable impacts may occur as a result of continuing implementation of on-going activities or implementation of new proposed investments. The action plan may call for improvements of existing ESMPs, as relevant, to address the impacts that are identified based on the audit.

The action plan should also include measures to inform potentially affected people of the nature of transactions, potential impacts, mitigations measures and Grievance Redress Mechanisms (GRM) as necessary. The action plan should be subsequently incorporated in the investment agreement with Contractors and made a condition of the investment.

The statutory (legal and administrative) frameworks within which the consultancy activities shall be executed are provided in the following regulations, guidelines, and standards (Note: these regulations are not exhaustive):

- The World Bank Safeguard Policies and Environmental Health and Safety Guidelines.
- The regulations, guidelines, and standards of the Federal Ministry of Power as it concerns high voltage power transmission in Nigeria.
- The regulations, guidelines and standards of the Federal Ministry of Environment concerning power generation and transmission activities in Nigeria.
- The regulations, guidelines and standards of the various State Ministries of Environment and Social Welfare.
- All International Conventions/Treaties on Environmental Protection/Social Welfare to which Nigeria is a party.
- The Corporate and Operational Policies of the Transmission Company of Nigeria

Throughout the duration of the Assignment, the Consultant shall maintain effective communication with relevant Regulatory Agencies/Stakeholders at the Federal, State and Local Government levels on the proposed Project. The Stakeholders shall include the following:

- Federal Ministry of Environment,
- Federal Ministry of Land
- Federal Ministry of Youth and Social Development
- State Ministries of Environment
- Respective Local Government Councils
- State Environmental Agencies
- Community Based Organizations, (Civil Society, NGOs) in the affected States
- Project Affected Persons (PAPs)

The audit shall be divided into three phases: (i) pre-audit activities; (ii) on-site audit activities; and (iii) post-audit activities.

1. Pre-audit activities

The pre-audit activities aim to develop an audit plan for the on-site activities and make the necessary preparation and arrangements for the on-site audit. The tasks at this stage are to:

i. indicate the objective, scope and criteria of the audit;
ii. develop an audit plan for the on-site activities;
iii. prepare audit questionnaires;
iv. review background information:
- REA's internal environmental policies, procedures and guidelines;
- REA's quarterly monitoring reports;
- Site history, usage and activities;
- Organizational structure;
- DARES ESMF
- DARES RPF
- ESMP for Subprojects
- Resettlement Action Plan (RAP) for Subprojects

v. Review operational information:
- Operational activities and process description;
- Management system policies, procedure and program documentation;
- Relevant records (compliance, monitoring, training etc.);
- Other relevant information pertaining to environmental and social risk management practices.

vi. In close collaboration with the REA-PMU team, conduct initial site visits to a sample of Subprojects as part of determining the scope of the audit:
- Meet with Officers-in-charge to explain purpose of audit;
- Assess whether background information gathered is up to date and accurate;
- Follow-up on the list of preliminary audit impressions;
- Identify and request additional site information as necessary;
- Confirm adequacy and appropriateness of audit scope;
- Establish adequacy of resources for audit.

vii. Develop on-site questionnaires and audit protocols
viii. Review Audit Plan and arrange logistics:
- Audit scope;
- Audit schedule;
- Audit protocols;
- Allocated resources.

2. On-site Audit Activities

The on-site audit objectives should reflect those of the environmental and social compliance audit, and include:

a) In-depth document review
- Management policy;
- Management system documentation;
- Operational procedures;
- Records (utility, inventory, monitoring, calibration, transportation, training etc.);
- Previous audit reports.

b) Conduct on-site meetings:

- Present audit scope and objectives;
- Outline the audit approach and methodology;
- Address questions or concerns of site personnel;
- Rally staff support and assistance.

c) Conduct detailed site inspections with the aid of on-site audit protocols to look for evidence of:

- Legislative and regulatory compliance;
- Internal policy and procedural conformance;
- Establishment of current practice status;
- Progress and quality of ESMP and RAP implementation;
- Identification of improvement opportunities;
- Status of operational practice;
- Staff participation in management system.

d) Conduct staff interview at REA regional offices to obtain information on

- Actual E&S practices (current and past);
- Compliance with/or deviation from statutory and departmental requirements;
- Awareness of requirements and expectations.

e) Review audit evidence to ensure its adequacy at the conclusion of on-site audits by:

- Reviewing information gathered;
- Collecting additional information as needed;
- Substantiating audit findings;
- Summarizing and documenting all findings and observations;
- Identifying issues requiring immediate attention/mitigation
- Noting outstanding issues requiring follow-up.

f) Conduct closing meetings: The closing meetings provide an opportunity at the conclusion of on-site audit to:

- Debrief relevant REA management;
- Summarize the audit activities and findings;
- Highlight system strengths and weaknesses;
- Discuss preliminary findings and recommended corrective actions;
- Bring up findings requiring immediate attention;
- Clarify any outstanding issues.

3. Post-audit activities

The post audit activities aim to produce an audit report with audit findings and recommendations and to contribute towards formulation of a corrective action plan for continual performance improvement. The activities will focus on collating the information and follow-up on outstanding issues, as follows:

- Completed pre-audit questionnaires, operational document checklists;
- Completed on-site Survey questionnaires, on-site audit protocols;
- All relevant correspondence, memoranda, reports, diagrams and drawings;
- Copies of records, photographs, and other information collected during the site visit;

- Detailed inspection and interview notes and summaries.

7. SAMPLE OUTLINE OF THE ANNUAL AUDIT REPORT

An audit report shall include but shall not be limited to the following information:

a) An Executive Summary

b) Introduction and Background of the Audit

c) Audit Scope and Objective

d) Description of Audit Approach and Methodology

e) Summary of Audit Findings:

- the past and present impacts of the project;
- the responsibility and proficiency of the operators of the project;
- existing internal control mechanisms to identify and mitigate activities with a negative environmental impact;
- existing internal control mechanisms to ensure the workers' health and safety; and
- the existence of environmental and social awareness and sensitization measures, including environmental and social standards, and regulations, law, and policy, for the managerial and operational personnel.

f) Recommendations and Conclusions

Annex X: ESMP Table of Contents

ESMP Template

Title Page **Table of Contents** **List of Tables** **List of Figures** **List of Plates** **List of Acronyms and Abbreviations** **ESMP Preparers** **Executive Summary**	**Chapter One: Introduction** **Overview of the IPP Project** **ESMP Objectives** **Scope of the ESMP** **ESMP Study Approach** **Legal and Institutional Framework** **Institutional Arrangements for Environmental and Social Management** **Structure of the ESMP**
Chapter Two: Project Justification **Need for the Project** **Project Benefits** **Justification for Site Selection** **Envisaged Sustainability of the Project** **Alternatives Considered within the Context of the Project**	**Chapter three: Project Description** Introduction Project Location Health and Safety Emergency Preparedness Waste Management Project Schedule
Chapter four: Description of the Environmental and socio-economic conditions **Introduction** **Baseline Data Acquisition** **Description of Bio-Physical Environment** **Socio-economic and Health conditions** **Stakeholder Engagement**	**Chapter Five: Associated and Potential Environmental and Social Impacts** Introduction Impact Assessment Overview Determination of Impact Significance Impact Discussions Risk and Hazard Assessment Summary
Chapter Six: Impact Mitigation Measures **Introduction** **Mitigation Measures Approach** **Mitigation Measures for the Identified Project Risks and Enhancement Measures for Identified Positive Impacts**	**Chapter Seven: Environmental and Social Management Plan** Introduction Roles, Responsibilities and Accountabilities for ESMP implementation Environmental Monitoring Programme Implementation Schedule and Reporting ESMP Costing
Chapter Eight: Grievance Redress Mechanism **Chapter Ten: Conclusion**	Chapter Nine: Public Consultation and information disclosure References Appendices

Annex XI: Covid-19 Protocol for the Distributed Access Renewable Energy Scale-up (DARES)

The Environmental and Social Management Framework (ESMF) for the Distributed Access Renewable Energy Scale-up DARES Project was prepared in May 2023.

In light of the COVID 19 pandemic, all the project activities will follow the laid down Covid19 prevention protocol it is therefore, essential for the project to include consideration of the Covid19 situation into project implementation activities.

A tailor-made guideline for conducting public meetings under Covid19 constraints for the purposes of the project will be prepared referencing the World Bank Technical note on Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings and/or refer to WHO guideline and the country specific Nigeria Center for Disease Control (NCDC) COVID 19 guidelines.

The specific requirements for conducting meetings under Covid19 constraints will also be included in the Stakeholders Engagement Plan (SEP) while noting that some aspects of the NEP is directly associated with the Covid19 issue.

All the components under the NEP have public consultation and stakeholder engagement activities planned as part of project design.

Commonly planned avenues of such engagement are public hearings, community meetings, focus group discussions, field surveys and individual interviews. With growing concern about the risk of virus spread, there is an urgent need to adjust the approach and methodology for conducting stakeholder consultation and engagement.

Taking into account the importance of ensuring compliance with national law requirements, below are some suggestions for contractors and consultants to consider while carrying out their assignments under the NEP.

- Identify and review planned activities under the project requiring stakeholder engagement and public consultations.

- Assess the level of proposed direct engagement with stakeholders, including location and size of proposed gatherings, frequency of engagement, categories of stakeholders (international, national, local) etc.

- Assess the level of risks of the virus transmission for these engagements, and how restrictions that is in effect in the country / project area would affect these engagements.

- Identify project activities for which consultation/engagement is critical and cannot be postponed without having significant impact on project timelines. For example, selection of resettlement options by affected people during project implementation. Reflecting the specific activity, consider viable means of achieving the necessary input from stakeholders (see further below).

- Assess the level of ICT penetration among key stakeholder groups, to identify the type of communication channels that can be effectively used in the project context.

Based on the above, below are some points for considerations while selecting channels of communication in the light of current COVID-19 situation, ensuring effective and meaningful consultations to meet project and stakeholder needs.

- Review and incorporate the country (NCDC) COVID-19 spread situation in the project area, and the restrictions put in place by the government to contain virus spread;
- Review the draft Stakeholder Engagement Plan (SEP) or other agreed stakeholder engagement arrangements, particularly the approach, methods and forms of engagement proposed, and assess the associated potential risks of virus transmission in conducting various engagement activities;
- It is essential that all task team and the PMU members articulate and express their understandings on social behavior and good hygiene practices, and that any stakeholder engagement events be preceded with the procedure of articulating such hygienic practices.
- Avoid public gatherings (taking into account NCDC National restrictions), including public hearings, workshops and community meetings, and minimize direct interaction between project agencies and beneficiaries / affected people;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including webex, zoom and skype meetings;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Such channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Employ online communication tools to design virtual workshops in situations where large meetings and workshops are essential, given the preparatory stage of the project. Webex, Skype, and in low ICT capacity situations, audio meetings, can be effective tools to design virtual workshops. The format of such workshops could include the following steps:

    - *Virtual registration of participants*: Participants can register online through a dedicated platform.
    - *Distribution of workshop materials to participants, including agenda, project documents, presentations, questionnaires, and discussion topics*: These can be distributed online to participants.
    - *Review of distributed information materials*: Participants are given a scheduled duration for this, prior to scheduling a discussion on the information provided.
    - *Discussion, feedback collection and sharing*:
        - ✓ Participants can be organized and assigned to different topic groups, teams or virtual “tables” provided they agree to this.
        - ✓ Group, team, and table discussions can be organized through social media means, such as webex, skype or zoom, or through written feedback in the form of an electronic questionnaire or feedback forms that can be emailed back.

    - *Conclusion and summary:* The chair of the workshop will summarize the virtual workshop discussion; formulate conclusions and share electronically with all participants.

- In situations where online interaction is challenging, information can be disseminated through digital platform (where available) like Facebook, Twitter, WhatsApp groups, Project weblinks/ websites, and traditional means of communications (TV, newspaper, radio, phone calls and mails with clear description of mechanisms for providing feedback via mail and / or dedicated telephone lines. All channels of communication need to clearly specify how stakeholders can provide their feedback and suggestions.

- *Engagement with direct stakeholders for household surveys*: There may be planning activities that require direct stakeholder engagement, particularly in the field. One example is resettlement planning where surveys need to be conducted to ascertain socioeconomic status of affected people, take inventory of their affected assets, and facilitate discussions related to relocation and livelihood planning. Such survey activities require active participation of local stakeholders, particularly the potentially adversely affected communities. However, there may be situations involving indigenous communities, or other communities that may not have access to the digital platforms or means of communication, teams should develop specially tailored stakeholder engagement approaches that will be appropriate in the specific setting.

- In situations where it is determined that meaningful consultations that are critical to the conduct of a specific project activity cannot be conducted in spite of all reasonable efforts on the part of the client supported by the Bank, the task team should discuss with the client whether the proposed project activities can be postponed by a few weeks in view of the virus spread risks. This would depend on the COVID-19 situation in the country, and the government policy requirements to contain the virus spread.

Annex XII: SHS Distributor Environmental and Social Management System: Basic Requirements

This document provides basic requirements for the institution's Environmental and Social Management System (ESMS) for SHS distributors who are interested in being qualified for the NEP Component 2. There are three basic requirements for the institutional management of E&S issues, which also requires the SHS Company to commit sufficient resources and capacity to implementation.

1. Human Resources Policy

SHS company will have in place an HR policy that expresses its commitments, at a minimum to: (1) comply with all relevant national labor laws and regulations; (2) promote the fair treatment, non-discrimination, and equal opportunity for workers; (3) establish, maintain, and improve the worker-management relationship; (4) allow workers' organizations and collective bargaining; (5) have in place a grievance mechanism for workers; (6) not to employ forced labor or child labor, including not hiring workers below minimum age, as defined by national law and not employ children in hazardous work.[28]

SHS company will adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of national law. It will provide workers with documented information that is clear and understandable, regarding their rights under national labor and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur. It will provide and inform workers of an internal grievance process to raise their workplace concerns.

2. Occupational Safety & Health Policy/ Guideline

SHS company will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. It will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of hazards. OHS Guideline will also include steps, as relevant, for HIV/AIDS prevention. It will also include concrete plan for monitoring compliance with the Guideline in the SHS company operations.

3. Battery Collection/Recycling Policy

If SHS company has an existing battery collection and/or recycling policy, this should be submitted with the application.

It is preferred that batteries are recycled to potentially reuse some of its components, where economically and technically feasible. This would be equally applicable for expired batteries

[28]Employees may only be taken if they are at least 15 years old, as defined in the ILO Minimum Age Convention (C138, Art. 2), and ratified by Nigeria in 2002. Children under the age of 18 will not be employed in hazardous work. Children will not be employed in any manner that is economically exploitive, 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.

and the batteries that will be replaced within the warranty period due to manufacturing fault or reasons outlined in warranty conditions.

The company shall systematically collect used battery units and engage with communities on the importance of recycling if such program is in place. The suggested options that can be considered are:

A. **Collection of Batteries by SHS Companies:** SHS company representatives will make arrangement to collect the battery units from the consumer and store it in the local offices. SHS company will take necessary measures to ensure safe storage of the batteries. It may be feasible for SHS company to send the warranty expired batteries to a central location.

B. **Potential battery disposal / recycling options can be as follows:**

- **Buy-back arrangements with manufacturers**: SHS company can put in place buy-back arrangements with the battery manufacturers and ensure safe transportation of the batteries to the manufacturer. SHS company and manufacturers can mutually decide on cost sharing of collection and transportation of expired batteries, for example sign a Memorandum of Understanding signed between them;
- **Recycling at own facilities:** SHS companies may consider establishing their own recycling facilities. Recycling of lithium-ion batteries is possible but, according to research and practice, makes little economic sense. Lithium-ion batteries can be recycled, but only at specified locations. Projects are currently underway in Europe, the United States and Japan to develop effective and feasible recycling technologies with a complete life cycle analysis of recycling;
- **Recycling at centralized locations in the country:** If recycling facilities for lithium-ion batteries exist, SHS companies must use those that are inspected by REA and Ministry of Environment and are considered safe and complainant with national regulations and World Bank standards;
- **Disposal:** Lithium-ion batteries may qualify as household hazardous waste.[29] SHS company will ensure that the batteries are disposed in a particular designated area ensuring environmental and occupational health and safety in line with World Bank E&S standards and Environmental, health, and Safety Guidelines of the World Bank Group. SHS company will also comply with the government regulations, if any, regarding disposal of any of the components used in the battery units.

[29] In some countries, they are classified as non-hazardous waste.

Annex XIII: E&S Parameters in Electricity Demand Surveys

	Number of communities		Comments
Yes, protected area	**18**		
No protected area	**78**	96	
No Disaster	**20**		
Disaster	**76**	96	
Water shortage	**61**		
No shortage	**19**	80	** No information for 16 communities
High poverty rate	**50**		
Not high poverty rate	**30**	80	** No information for 16 communities
High Unemployment rate	**56**		
Not high unemployment rate	**24**	80	** No information for 16 communities
High Social disparity	**26**		
Not high social disparity	**54**	80	** No information for 16 communities

Land ownership (Multiple responses possible)	
Community land ownership	44 Communities
Customary land ownership	26 Communities
Family land ownership	57 Communities
Individual land ownership	51 Communities
Traditional land ownership	50 Communities

Annex XIV: Voluntary Land Donation Guidelines

Voluntary land donation is strictly defined in international practice as the ceding of a property by an owner who is: a) fully informed; and b) can exercise free will, i.e., can refuse to sell or to donate. “Fully informed” means that the owner has complete information regarding the proposed activity and its impacts, its land requirements, and its alternate activity sites, as well as his or her rights to compensation. The owner has also been provided with sufficient time to consider his or her disposition of the property, and the owner has knowingly rejected the right to renege on his or her initial decision. “Free will” means that the owner can reject the possibility of giving up his or her land.

VLD should only be authorized if they (a) have affected people as direct beneficiaries; (b) clearly document Informed Consent; (c) clearly document Power of Choice (option of refusal or to sell ast prevailing market rate); and (d) meet the VLD guidelines of the project. The guidelines have been put into place to ensure that donations are indeed voluntary, that the donor is the legitimate owner of such lands, and that the donor is fully informed of the purpose of the donation and of the implications of donating the property.[30] If the land is donated on a conditional basis, the terms and conditions for the temporary use of the property must be clearly documented.

The following principles should be complied with when VLD is carried out:

Core principles:

- The land required to meet technical project criteria must be identified by the affected community through a participatory approach and not by the developer, line agencies or project authorities (nonetheless, technical authorities can help ensure that the land is appropriate for project purposes and that the project will produce no health or environmental safety hazards); mini-grids can be sited in any location within a community so long the location meets the technical criteria for the investment
- The proportion of land that may be donated cannot exceed 15 m2 per kW of the proposed generation capacity plus an additional 7.5m2 per kW for future generation capacity expansion.
- Land donation for a single mini-grid or power generation system shall not exceed 10% of the land donor’s holdings in cases where land ownership is individual or family.
- Land required above 1,500 m2, whether for initial construction or future generation capacity expansion, can be either leased using leasehold agreement (using ground rent scale set by each state in Nigeria) or bought on wiling-buyer-willing-seller basis at current local market price in the community.

[30] Voluntary land donation is strictly defined in international practice as the ceding of a property by an owner who is: a) fully informed; and b) can exercise free will, i.e., can refuse to sell or to donate. “Fully informed” means that the owner has complete information regarding the proposed activity and its impacts, its land requirements and its alternate activity sites, as well as his or her rights to compensation. The owner has also been provided with sufficient time to consider his or her disposition of the property, and the owner has knowingly rejected the right to renege on his or her initial decision. “Free will” means that the owner can reject the possibility of giving up his or her land.

- Donated land can only be used for power plant construction and future expansion and be fenced off accordingly.
- Shall the donated land not be used for power plant construction within three years, the unused land shall be returned to the donor.

Additional requirements:

- Impacts of proposed activities on donated land must be fully explained to the donor.
- The potential donor is aware that refusal is an option, and that right of refusal is specified in the donation document the donor will sign.
- The act of donation is undertaken without coercion, manipulation, or any form of pressure on the part of the developer, the public or traditional authorities.
- The donor may request monetary or non-monetary benefits or incentives as a condition for donation.
- Donation of land cannot occur if it requires any household relocation.
- For community or collective land, donation can only occur with the consent of individuals using or occupying the land.
- Verification must be obtained from each person/ family donating land (either through proper documentation or through confirmation by at least two witnesses)
- The implementing agency or mini grid developers establish that the land to be donated is free of encumbrances or encroachment and registers the donated land in an official land registry.
- Any portion of donated land that is not used for its agreed purpose is returned to the donor.
- The land in question must be free of squatters, encroachers, or other claims or encumbrances.
- Land thus donated is free from any dispute on ownership, squatters, encroachers, or other claims or any other encumbrances.

Procedure:

Step 1: Determining and Documenting the Appropriateness of VLD for the Subproject

In considering the relevance of VLD for the specific subproject, mini-grid developer will document:

- How much land the subproject would require on both a permanent and temporary basis.
- What the land would be used for
- What alternatives to donation exist (e.g., right of use, right of way, lease, or purchase)
- The proposed terms of any donation of land
- Any other details that are relevant to why donation of land may be appropriate.

Step 2: Official Notification to Landowners regarding the Option for VLD

If it is determined that VLD could be relevant for a subproject, the local authority (e.g., village head) will provide landowners with official written notification of the proposed construction

of electricity infrastructure within their area and the associated opportunity for voluntary donation of land.

Step 3: Briefing to Interested Landowners of the Process of VLD

If the landowner indicates to the village head or similar authority that he or she is interested in VLD, they should brief the landowner/village about the process of VLD and explain the VLD form that would be required to be completed and signed by the landowner/villager and his/her spouse, as relevant. Prior to briefing the interested landowner, the village head should confirm that:

- The interested landholder/villager would not lose more than 10% of his/her total productive assets.
- No physical relocation of the interested landowner/villager and/or his/her family would be necessary.

Step 4: Due Diligence Verification Process to Confirm Land Ownership and Use

If the interested landowner and his/her spouse confirm that they would like to proceed with VLD, the next step is to verify the ownership and use of the land proposed to be donated. The verification process should review available information and documentation regarding: Mini grid developer should:

- The owner or owners of the land
- The users of the land, or any parties that occupy the land (either physically or through ownership of an asset or conduct of livelihood or business activities on the land)
- Any competing claims of ownership or use.
- Structures and assets on the land
- Trees or crops on the land.
- Any encumbrances on the land.

It is important to: (i) identify the right that is being transferred (an ownership right, a use right, a right of way, etc.); and (ii) check whether the donor actually has the right s/he claims to have. In many circumstances where careful due diligence has not been carried out, significant conflict has arisen at a later stage when another party claims that they have the same or a competing right. In some circumstances – but not all – the transferee will have documentary evidence of such right. Where no such evidence exists, the due diligence can establish rights by speaking with local community officials and neighbors.

Step 5: Public Consultations and Disclosure

The decision to voluntarily donate land must be taken on the basis of a full understanding of the specific subproject and the consequences of agreeing to donate land. Accordingly, the parties that will be affected by the donation (the owners and users of the land, and the neighbors to the land as appropriate) must be provided with accurate and accessible information regarding what the land will be used for, for how long, and the impact the donation may have on them and their families. Prior written notification indicating the location and amount of land that is sought must be provided and its intended use must be disclosed.

Where the intention is to deprive the parties affected by the donation of the land permanently, or for a significant length of time, this must be made clear. It should be noted that in many communities the concept of alienation of land is uncommon and difficult to understand, and care needs to be taken to ensure that the implications of this are fully understood. It is also important to decide who else, within direct and extended families, should be consulted about the proposed donation of land in advance of it taking place; for example, older children.

Further to this, there should be a clear agreement as to which party/ies will pay the costs associated with the donated land. This could include measurement costs, documentation and notarial fees, transfer taxes, registration fees. It should also include the costs of re-measuring/re-titling the transferee's remaining land and any new documentation relating to it.

Step 6: Establishing Informed Consent

Mini grid developer, in coordination with the village administration, would verify the informed consent or power of choice by landholders who had selected to donate land. In particular, the following would be verified and documented in the voluntary land donation form:

- That the donor has a right to refuse to donate of an option to sell at prevailing market rate
- What the land is going to be used for, by whom and for how long
- That the landowner donating the land would be deprived of the ownership or right to use the land, and what this really means.
- That the landowner has a right to refuse to donate the land
- Whether there are alternatives to using the land
- The process that would need to be followed to donate the land (e.g., execute documents, get spousal consents, pay taxes)
- The effect of the donation on the land donor's family, and what they can do if they (or their family or heirs) decide they want the land back.

The right to refuse must be a legitimate right, unconditional, and the potential transferee must be capable of exercising it in the local community and political context. For this reason, it is important to be sure that the decision to donate is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities. For collective or communal land, donation must be based upon the informed consent of all individuals using or occupying the land.

Step 7: Preparation of Clear and Appropriate Documentation

While it is important to have evidence of an intention and agreement to donate land, it is equally important to ensure, where required and appropriate, that the land is legally transferred. While the process relating to the legal transfer of the land is frequently complicated and time consuming, it must be addressed. *[In specific circumstances, for example where the land is being transferred to the community, it may not be necessary to legally transfer the land. However, experience indicates that lack of formal transfer can create significant uncertainty in the future, which impacts on the sustainability of the infrastructure and services and can have a negative effect on community relations.]*

Mini grid developer should:

- Identify the appropriate documentation, including the agreement to make the land transfer and any legal documentation that may be required.

- Ensure that the agreement: - Refers to the consultation has taken place; - Sets out the terms of the transfer; - Confirms that the decision to transfer was freely made, and was not subject to coercion, manipulation, or any form of pressure; - Attaches an accurate map of the land being transferred (boundaries, coordinates); - Sets out who will bear the costs of the transfer (e.g., notarial fees, taxes, title issues) and documents the residual land rights
- Ensure that all necessary parties sign the documents, including obtaining consent from spouses and children of legal age.
- Ensure that the transfer and title is registered or recorded; and
- Ensure that the land remaining after the donated land is excised is properly titled, registered, or recorded.

It is also important to maintain a record of the process that has been followed. Such documents could include the following:

- The notification indicating the location and amount of land that was sought and its intended use for the project, with a record of when and where this was made public.
- Records of the consultations that were held and what was discussed.
- A copy of the due diligence that was conducted.
- Copies of each of the formal statements of donation, establishing informed consent as described above, and signed by each owner or user involved.
- Copies of all documents, registrations or records evidencing the legal transfer of the land.
- A map, showing each parcel of land.
- Appropriate documentation for reverting the land to the donor upon decommissioning from the site.

Step 8: Grievance redress arrangements

The project specifies the means by which donors (and, potentially, persons whose use or occupancy was not recognized in the transfer of land) may raise grievances, and measures to ensure consideration of, and timely response to, grievances raised. The grievance process includes participation of reviewers not directly affiliated with the village administration. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.

VOLUNTARY LAND DONATION (OR LAND LEASE) FORM

This form or an equivalent document is to be used to record the consent of landowners who offer private land for a community good activity. The essentials of voluntary donation are that the donors have been freely consulted prior to the donation, were not pressured, or coerced, that the donation will not affect a significant proportion (more than 10%) of their productive assets, and that they have the right to refuse and to lodge a complaint if they have a grievance about the process.

Consent Form for Voluntary Donation

I/We: _____ male household head _____female household head, and/or person(s) exercising customary rights over land described as (legal description, GPS coordinates if available) in
Village_____
Island_____

Province _____
Hereby declare that I/we/the group are the owners/users of the land required for (description):
_____
I/we are voluntarily donating the use of land and or/ land-based assets (land area, type of assets /trees/crops, etc.) _____
_____
for the purpose of: (specify activity)
_____
_____

We agree to this purpose from (date)_____ for as long as the purpose is served *or* until (specify end date, typically the life expectancy of the facility) _____

I/we make this donation of My/Our own free will. I/We are waiving My/Our right to compensation of any kind for the specified duration of the activity.

I/We affirm that we have been fully and freely consulted and informed about the activity prior to agreement, have not been subject to any form of coercion, understand that I/we have the right to refuse, and to seek redress for any grievance concerning this transaction.

Signed:

Male household head _____ /Female household head_____

Chief or Local Custom Authority_____

Annex XV: VOLUNTARY LAND DONATION (OR LAND LEASE) FORM

This form or an equivalent document is to be used to record the consent of land owners who offer private land for a community good activity. The essentials of voluntary donation are that the donors have been freely consulted prior to the donation, were not pressured or coerced, that the donation will not affect a significant proportion (more than 10%) of their productive assets, and that they have the right to refuse and to lodge a complaint if they have a grievance about the process.

Consent Form for Voluntary Donation

I/We: _____ male household head _____female household head, and/or person(s) exercising customary rights over land described as (legal description, GPS coordinates if available) in
Village_____
Island_____
Province _____
Hereby declare that I/we/the group are the owners/users of the land required for (description):
_____
I/we are voluntarily donating the use of land and or/ land-based assets (land area, type of assets

/trees/crops, etc.) _____
_____
for the purpose of: (specify activity)
_____
_____
We agree to this purpose from (date)_____ for as long as the purpose is served *or* until (specify end date, typically the life expectancy of the facility) _____

I/we make this donation of My/Our own free will. I/We are waiving My/Our right to compensation of any kind for the specified duration of the activity.

I/We affirm that we have been fully and freely consulted and informed about the activity prior to agreement, have not been subject to any form of coercion, understand that I/we have the right to refuse, and to seek redress for any grievance concerning this transaction.

Signed:

Male household head _____ /Female household head_____
Chief or Local Custom Authority_____

Environmental and Social Exclusion Criteria

2.3.1. Exclusion criteria for mini grid developers, SHS companies, and contractors

Mini grid developers under component 1, SHS companies under component 2, and contractors involved in construction and operation of university mini grids under component 3 will not be supported if they are involved in the following:

- Production or activities involving forced labor[1]
- Production or activities involving child labor[2]
- Cross-border trade in waste and waste products, unless compliant to the Basel Convention and the underlying regulations[3]

Footnotes

1. Forced labor means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

2. Employees may only be taken if they are at least 15 years old, as defined in the ILO Minimum Age Convention (C138, Art. 2), and ratified by Nigeria in 2002. Children under the age of 18 will not be employed in hazardous work. Children will not be employed in any manner that is economically exploitive, 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.

3. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations. Hazardous waste, as defined under the convention, will not be traded cross-border. Under Basel Convention, "hazardous wastes" are defined as (a) Wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III; and
(b) Wastes that are not covered under paragraph (a) but are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit. National definition of hazardous wastes for Nigeria under Basel Convention can be found here: http://www.basel.int/Countries/NationalDefinitions/NationalDefinitionsofHazardousWastes/tabid/1480/Default.aspx

2.3.2. Exclusion criteria for mini grid and power generation sites

The exclusion criteria for mini grid sites (component 1) and power generation sites (component 3) will apply as follows:

10. Sites that do not comply with relevant environmental and social national or state regulations of Nigeria[1.]
11. Sites located in legally protected areas (e.g., national parks, conservation areas, forests)[2.]
12. Sites located in internationally recognized areas[3.]
13. Sites located in critical natural habitats[4.]
14. Sites where mini grid construction and operation will cause significant degradation of natural habitats (e.g., mangroves)[5.]
15. Sites in flood-prone zones
16. Sites located on land from which government agencies or builders have removed / involuntarily resettled local communities, including squatters or encroachers, without proper compensation[6.]
17. Sites located on land associated with illegal forced evictions of previous owners or occupants[7.]
18. Sites in locations and / or developed in a manner that involves significant adverse impacts on physical cultural property[8.]

Footnotes

1. Relevant environmental and social include those that prohibit development of mini grids and associated infrastructure in certain designated locations.

2. Legally protected areas are those that meet the IUCN definition: “A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.” This includes areas proposed by governments for such designation.

3. These are defined as UNESCO Natural World Heritage Sites, UNESCO Man and the Biosphere Reserves, Key Biodiversity Areas, and wetlands designated under the Convention on Wetlands of International Importance (the Ramsar Convention).

4. Critical habitat is a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value that meet the criteria of the World Conservation Union (IUCN) classification, including habitats of significant importance for required for critically endangered or endangered species as defined by the IUCN Red List of Threatened Species; habitats of significant importance for endemic or restricted-range species; habitats supporting globally significant concentrations of migratory species and /or congregatory species; areas with unique assemblages of species or which are associated with key evolutionary processes. Primary Forests or forests of High Conservation Value shall be considered Critical Habitats.

5. Natural habitats are land and water areas where (i) the ecosystems' bio-logical communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions. All natural habitats have important biological, social, economic, and existence value. Important natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; Mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; sea grass beds; coral reefs; freshwater lakes and rivers; alpine and sub alpine environments, including herb fields, grasslands, and paramos; and tropical and temperate grasslands. Biodiversity outside of natural habitats (such as within agricultural landscapes) is not covered under this policy. It is good practice to take such biodiversity into consideration in project design and implementation.

6. Resettlement activities should follow the process through which adverse social and economic impacts are minimized through (i) providing compensation for loss of assets at replacement cost defined as the market value of the assets plus transaction costs and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. These criteria will only apply to such resettlement / displacement that took place specifically in anticipation or preparation for the construction of mini grids.

7. Permanent or temporary removal against their will of individuals, families and/or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Prohibition on forced evictions does not, however, apply to evictions carried out by force in accordance with national law and is conducted in a manner consistent with basic principles of due process, including provision of adequate advance notice, meaningful opportunities to lodge grievances and appeals, and avoidance of the use of unnecessary, disproportionate or excessive force. These criteria will only apply to such resettlement / displacement that took place specifically in anticipation or preparation for the construction of mini grids.

8. Also known as ‘cultural heritage’, ‘cultural patrimony’, ‘cultural assets’ or ‘cultural property’. Physical cultural resources are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other culture l significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Annex XVI: Terms of Reference (ToR) For GBV Officer for the DARES

Draft Terms of Reference (TOR)

For

Engagement of a Gender Based Violence Officer
Distributed Access Renewable Energy Scale-up (DARES)

Consultancy Services for Engagement of a Gender Based Violent (GBV) Specialist

1.0 PROJECT BACKGROUND AND OBJECTIVES

The federal government of Nigeria (FGN) has applied for financing from the international development association for a credit towards the cost of the Distributed Access Renewable Energy Scale-up (DARES) and intends to apply part of the proceeds of this credit to payment under the contract for the Consultancy Services for the preparation of a Grievance Redress and Beneficiary feedback mechanism.

The FGN's Economic and Recovery Growth Plan 2017-2020 ("ERGP") sets out the medium-term structural reforms to diversify Nigeria's economy, including expanding power sector infrastructure as one of the top priorities. The ERGP recognizes the fundamental role of power to the development of all sectors of the economy.

In line with the above objective, the Government of Nigeria has prepared a Power Sector Recover Program ("PSRP", or the Program) in March 2017 with the goal of putting the sector on a financially sustainable path. Addressing the gap between the cost of supply and cost recovery is a cornerstone of the PSRP. The project will cut across the six geo-political zones of the country.

2.0 DESCRIPTION OF THE PROJECT

3.0 STATUTORY (LEGAL AND ADMINISTRATIVE) FRAMEWORK

The statutory (legal and administrative) frameworks within which the consultancy activities shall be executed are provided in the following regulations, guidelines and standards (these regulations are not exhaustive).

i. The World Bank Environmental and Social Framework (ESF) and the –Good Practice Note on Gender based Violence.

ii. The regulations, guidelines, and standards of the Federal Ministry of Power as it concerns Gender Based Violence.

iii. The regulations, guidelines and standards of the Federal Ministry of Women Affairs and Social Development and various State Ministries of Social Welfare.

iv. All International Conventions/Treaties on Social Welfare to which Nigeria is a party.

v. The Corporate and Operational Policies of the Rural Electrification Agency.

4.0 Tasks and Responsibilities of the GBV Specialist

The overall task of the GBV Specialist will be to focus on implementation of a prevention and response action plan to sexual exploitation and abuse (SEA) and other forms of GBV in the project's area of intervention. This will include imparting technical skills as well as coordination with larger stakeholders.

Specifically, the GBV Specialist's responsibilities shall include but not limited to the following:

- Promote internal guidelines for the implementation, monitoring and reporting of SEA/GBV prevention and response on the project.

- Coordinate the coherent and effective implementation of the SEA / GBV prevention and response on the DARES Project.

- Strengthen complaints mechanisms to ensure the effectiveness of mechanisms for recording, processing and referring the complaints, while engaging with project beneficiary communities as well as systems to protect them from SEA.

- Support the implementation of codes of conduct, and standard protocols for SEA prevention and response on the project.

- Develop training material; coordinate and facilitate training sessions on SEA/GBV training for contractors on codes of conduct and awareness raising sessions on prevention and response to SEA; including follow up to ensure REA and contractors are effectively accountable to the beneficiaries in the project areas.

- Support the PMU in the review of documentation pertaining to compliance with GBV prevention and response (including bidding documents, reviews on-site, reports from contractors etc.) during project implementation.

- Contribute to the development of tools and indicators for monitoring and evaluation.
- Contribute to the conception, development, pre-testing, and the production of educational and promotional materials.

Reporting Requirements

- The GBV specialist will operate within the Project Management Unit (PMU) and will be working in collaboration with the Federal Ministry of Women Affairs and Social Development (FMWSD) and GBV Sub sector working group at the Federal and the state levels. The GBV specialist will report to the Head (PMU) and will work closely with the Social Specialist to ensure smooth and effective implementation of the project.

Qualification, Skills, Knowledge, and Competencies:

- Bachelor's degree in social work or other social sciences, public/community health, gender, legal advice as it relates to gender and Gender Based Violence, and development or related field;

Knowledge and Experience:

- Knowledge of gender issues in development, particularly GBV, including relevant international human rights standards.
- Knowledge of reproductive health, HIV, and protection issues in humanitarian and post-conflict recovery settings.

- Prior training in gender and GBV issues and their application in humanitarian, conflict, recovery, and development settings.
- Experience in utilizing the following internationals tools: GBV Standard Operating Procedures; GBV Information Management System,
- Prior experience in counselling and psychosocial support will be an asset.
- Fluency in English is required. Working knowledge of Hausa, Ibo and Yoruba is an added advantage.
- Proven track-record in communicating difficult or complex issues in a clear and concise manner to different stakeholders and hierarchy levels.
- Excellent interpersonal, problem-solving, diplomacy and team skills, and the ability to work with a range of stakeholders to effectively negotiate and build consensus to achieve constructive outputs.
- Demonstrated experience with complaints handling, mediation or conflict resolution.
- Strong oral and written communication skills; ability to present and facilitate sessions and content in plain language; and
- Highest personal integrity and ethical standards, with demonstrated ability to handle confidential matters in a discreet and respectful manner.

Duration of the Assignment and Working arrangements/ Location and Travel

The assignment is for a Twelve (12) months period with the option for an extension based on good and satisfactory performance. The preferred working location shall be Abuja. Travel to Lagos and potentially to other parts of Nigeria will be expected in relation to this assignment.

Terms of Payment

Payment shall be monthly upon the submission of detailed monthly reports to the PMU.

Selection Method

The Consultant shall be selected under Individual Selection Method (INDV) as set out in World Bank's "Procurement Regulations for IPF Borrowers" dated July 2016 Revised November 2017 and August 2018 available on www.worldbank.org/procurement.

Annex XVII:

TERMS OF REFERENCE

Distributed Access Renewable Energy Scale-up

TERMS OF REFERENCE

FOR

CONSULTANCY SERVICES FOR DESIGN AND ESTABLISHMENT OF A GRIEVANCE REDRESS MECHANISM (GRM)

1.0 Background Information:

The Federal Government of Nigeria (FGN) has applied for financing from the international development association for a credit towards the cost of the Distributed Energy Renewable Energy Scale-up (DARES) and intends to apply part of the proceeds of this credit to payment under the contract for the Consultancy Services for the preparation of a Grievance Redress and Beneficiary feedback mechanism.

The FGN's Economic and Recovery Growth Plan 2017-2020 ("ERGP") sets out the medium-term structural reforms to diversify Nigeria's economy, including expanding power sector infrastructure as one of the top priorities. The ERGP recognizes the fundamental role of power to the development of all sectors of the economy.

In line with the above objective, the Government of Nigeria has prepared a Power Sector Recover Program ("PSRP", or the Program) in March 2017 with the goal of putting the sector on a financially sustainable path. Addressing the gap between the cost of supply and cost recovery is a cornerstone of the PSRP.

2.0 DESCRIPTION OF THE PROJECT

The proposed sites shall be procured by the respective State Governments and handed over to the Rural Electrification Agency (REA) as part of their contribution to the improvement of power supply. However, because some of these projects will be carried out on green land, there shall be need for the in-depth study of possible impacts on the proposed site/environment and the host communities and proffer appropriate mitigation measures to ensure the continuous collaboration of the various host communities via prior and informed consultation at various levels of project implementation. This will ensure that the concerns of the communities are adequately captured and addressed in so far as they are within the limits of the principles, objectives, and budget of the project.

3.0. Project Location

The sub projects will predominantly focus on selected sites in rural areas in five states: Sokoto, Ogun, Niger, and Cross River. The states present a wide range of physical characteristics with varying socio-cultural and socio-economic activities. Also, federal Universities will be selected in phases covering the six geopolitical zones of the country.

Introduction

Grievance Redress Mechanism (GRM) is defined as organizational systems and resources established by projects to receive and address concerns about the impact of their policies, programs and operations on project beneficiary and other stakeholders. The stakeholder input handled through these systems and procedures may be called "grievances," "complaints," "feedback," or another functionally equivalent term.

Feedback and Grievance Redress Mechanisms (FGRMs) are intended to complement, not

replace, formal legal channels for managing grievances (e.g., the court or other statutory legal system). Stakeholders always have the option to use other, more formal, and potentially more complex, costly and time-consuming alternatives, including legal remedies.

The REA proposed FGRM is not intended to replace the judiciary or other forms of legal recourse. The GRM is expected to:

- Build community acceptance of project's social license to operate.
- Facilitate access to information for all stakeholders.
- Provide a predictable, transparent, and credible process to all parties, resulting in outcomes that are seen as fair, effective, and lasting.
- Build trust as an integral component of broader community relations activities.
- Enable more systematic identification of emerging issues and trends, facilitating corrective action and pre-emptive engagement.
- Ensure better E&S management mechanisms for implementation of subprojects.
- Resolve environmental and social grievances in the Project areas.
- Build up a relationship of trust amongst the project staff and the affected parties / stakeholders.
- Ensure transparency in dealings amongst stakeholders including affected parties through a proper communication system.
- Mitigate or prevent adverse impacts of the project on communities and produces appropriate corrective or preventive action.
- Avoid project delays and cost increases, and improves quality of work.

4.0. Objective of the Assignment

An effective grievance redress mechanism (GRM) is required to provide pathways for stakeholders to raise issues about project implementation and performance.
The consultancy will involve the identification of personnel required for collecting, analyzing collating and documenting complaints and other information that will inform the development of a locally acceptable complaint, feedback and redress mechanism for the project stakeholders and the TRIMING project.

The broad objectives of the assignment are to:
i. Develop Feedback and Grievance Redress Mechanism for the project;
ii. Identify personnel required for collecting, analyzing, collating and documenting complaints and other necessary information relating to project activities
iii. Support the NEP PMU to operationalize the Feedback and Grievance Redress Mechanism

In pursuing the above objectives, the proponent (REA) shall;

i. Recognize and comply with all applicable regulations, guidelines and standards of the World Bank, the Federal Republic of Nigeria as represented by Federal Ministry of Environment (FMEnv), State Ministries of Environment, as well as International Conventions/Guidelines and Agreements to which Nigeria is a signatory.

ii. Undertake extensive consultations with all Stakeholders, document agreements and understandings reached with all relevant parties.

This Terms of Reference (TOR) has therefore been developed in order to:

iii. Outline the general scope of the consultancy,

iv. Define the procedures/Protocols for identification of potential social issues associated with NEP and their impacts on host communities,

v. Define the relevant framework for the legal, institutional, and administrative processes for the assignment.

5.0 STATUTORY (LEGAL AND ADMINISTRATIVE) FRAMEWORK

The statutory (legal and administrative) frame-works within which the consultancy activities shall be executed are provided in the following regulations, guidelines and standards (these regulations are not exhaustive);

vi. The World Bank Policies on involuntary resettlement and also on stakeholder engagement and grievance Redress and beneficiary feedback mechanism

vii. The regulations, guidelines and standards of the Federal Ministry of Power as it concerns Grievance Redress.

viii. The regulations, guidelines and standards of the various State Ministries of Environment and Social Welfare.

ix. All International Conventions/Treaties on Environmental Protection/Social Welfare to which Nigeria is a party.

x. The Corporate and Operational Policies of the Rural Electrification Agency.

6.0. Description of Key Tasks

Specific tasks expected under this consultancy include the following:

Task 1. Survey existing formal and informal GRMs in project beneficiary communities. Nigerian states currently have formal governmental grievance redress systems with responsibility for grievance redress and resolution, but these differ across states in terms of their design and operational effectiveness. At the community level, there are informal institutions (Community leaders, village elders, etc.) that are already dealing with grievance redress issues. The consultants will evaluate the scope of these systems and identify the potential to build on them while integrating them into the project's integrated GRM from communities to states, and to the REA.

Task 2. Develop standard operating procedures. The consultant will develop operating procedures, guidelines, and flowcharts detailing how the grievance redress process will unfold within the project's operating structures, more broadly from community level to the REA system, and how it will be reported, monitored, and recorded. The consultant will help integrate the grievance redress processes into the project's operational plan/manual as well as compile stand-alone publications to be distributed to project staff and GRM users. The consultant will

also recommend how a GRM could be better integrated into REA Common Guidelines. The consultant will recommend how the key implementing agencies/ developers can most effectively manage the proposed system, for example an assigned individual staff member, a small unit, etc.

Task 3. Estimate users and resources required to operate a GRM. The consultant will estimate the number of citizens that are likely to use the GRM and assess the resources—human, financial, and technological—that are available (and may be required) for the GRM to function effectively within the project. Accordingly, the consultant will determine the GRM's scope and scale and identify resource gaps.

Task 4. Design approaches for REA to publicize the GRM system. The consultant will work with REA to develop a grievance redress policy that clearly states that management embraces grievance reports and views them as opportunities for improvement. The policy should identify guiding principles; define the scope and types of grievances to be addressed; set out a user-friendly procedure for lodging grievances; outline a grievance redress structure; describe performance standards; and spell out internal and external grievance review mechanisms.

Task 5. Identify staff/units in the REA to manage the GRM system. Staff in charge of grievance redress should be skilled and professional. Based on the consultant's recommendations, project management will identify staff and assign them responsibility for handling grievances. The consultant will design a training plan to teach staff (and community members, if applicable) how to handle grievances and why the GRM is important to the project's success. This training material will include information about interacting with beneficiaries about grievances, the agency's standards, internal policies, and procedures in relation to grievance redress.

Task 6. Identify and describe the roles and responsibilities of private sector entities participating in the project (mini-grid developers, SHS companies, contractors) in the structure of the overall GRM for the project. All these entities are required by NEP ESMF to have a grievance mechanism at their level. The ESMF describes the requirements for such mechanism in detail. The consultant will investigate what kind of mechanisms already exist with these entities and what their obligations should be within the project structure, how they will deal with grievances at their level, what and how should be escalated to REA and / or other redress mechanisms.

Task 7: Evaluate dynamics working for or against the introduction of a grievance mechanism inside and outside the project and develop a GRM framework and plan

i. Are there existing mechanisms that could be viewed as competing?
ii. Develop a framework for the feedback and grievance redress mechanism, including an implementation plan for operationalizing the GRM (as well as building on strengths and closing the gaps (if any)

iii. Propose a plan to continuously improve GRM and communicate the final GRM mechanism to stakeholders.

Approach and Methodology

The prospective consultant shall work closely with the REA project E&S specialists and the promotion department. The study will be based on a desk review of available secondary information and structured interactions with relevant government institutions and local communities. All primary information shall be sourced from interviews and personal interactions with the stakeholders on the field.

Potential sources of information include:

- State Grievance-related legislation, policy, regulations, and procedures
- Local practices, national policies, programs, and actions associated with grievances.
- Analyses news articles, publications, and NGO studies within the proposed areas of intervention on grievance redress
- World Bank guidance on GRMs and references to international good practice standards
- Other World Bank project GRM
- Relevant documents on conflict/dispute resolution system
- Interview with community heads and other external stakeholders such as public interest group, community association, etc.

Upon completion of the assignment, the consultant shall conduct stakeholder consultation workshops to disseminate the structure of the Grievance Redress Mechanism to all stakeholders in each project scheme. The PIU will be responsible for this workshop.

7.0. Qualifications and Experience of the Consultant

- Minimum of master's degree from a recognized post-secondary institution in sociology, humanity, anthropology, systems design, project monitoring and evaluation, etc.
- Experience in alternative dispute resolution practice.
- Experience in carrying out similar assignments with another World Bank project.
- Proven experience in governance, voice and accountability issues, local and state levels
- Experience of the socio-cultural and traditional legal system in Nigeria.

8.0 DURATION OF WORK AND REPORTING

i. Duration

This assignment shall be completed within a period of 14 weeks commencing immediately after contract signing. The Consultant is expected to spend at least three weeks in the project sites to gather all necessary primary information.

ii. Reporting

The Consultant shall conduct the assignment working with the PIU E&S specialists and promotion / communication team and report to the Head of the PMU.

9.0 RESPONSIBILITIES OF THE CLIENT

In addition to the project supervisory and other responsibilities contained in this assignment, the client shall provide the Consultant with the following project documents:

i. Project Appraisal Document
ii. Relevant project documents
iii. Access to relevant stakeholders

10.0 DELIVERABLES/PAYMENT PLAN

A comprehensive and fully referenced report including detailed recommended grievance redress process must be submitted at the end of the assignment. The report must contain an in-depth analysis of the issues described in the key Tasks and should propose clear, implementable Grievance Redress and beneficiary feedback Mechanism.

S/N	Activity	Timeline *(after contract signing).*	Payment Plan (% of total contract sum)
1.	**Acceptable Inception Report: -** This should include methodology and work plan with clearly defined community entry strategy that ensures free prior and informed consent. The consultant must submit (3) hard copies and a soft copy of the inception report.	Week 4	10
2.	**1st Progress Report: -** An update on the current status of the assignment, existing system and details of first-level consultation. This should be presented in soft and hard copy. 3 hard copies and a soft copy	Week 8	30
3.	**Acceptable Draft Final Report:** Detailed findings from desk reviews, existing and available complaint, feedback, redress channels and tool(s). Upon completion of this deliverables, the consultant shall conduct a stakeholder consultation workshops to disseminate the structure of the Grievance Redress Mechanism. This should be submitted in soft and hard copies. 5 hard copies and a soft copy	Week 12	40
4.	**Acceptable Final Report: -** Must contain all comments and input from the PMU and the World Bank. ***7 hard copies and one soft copy in CD of the final report shall be submitted to the PMU.***	Week 14	20

Consultant will be selected in accordance with the Direct Selection (CDS) Method set out in the Procurement Regulations for IPF Borrowers dated *July 2016* and revised November 2017 as available on www.worldbank.org

Annex XVIII:

Action Plan for GBV Prevention and Response for Distributed Access Renewable Energy Scale-Up, Using the Nigeria Electrification Project as a Model

Introduction and Context

The Project Development Objective of NEP is to increase access to electricity services for households, public educational institutions, and underserved micro, small and medium enterprises. The project has four (4) components which will be implemented by the Rural Electrification Agency (REA):

Component 1 - Solar Hybrid Mini Grids for Rural Economic Development (US$330 million of which IDA US$150 million equivalent and US$180 million equivalent from private sector funding).

Under this component, the project will support the development of private sector mini grids in unserved and underserved areas that have high economic growth potential. The target is to provide access to electricity to 300,000 households, and 30,000 MSMEs, with an estimated 15 mini grid operators. Based on initial market studies, early activities are expected in Niger, Sokoto, Ogun, Plateau, and Cross River states. This component will be implemented under a market-based private sector led approach to construct, operate, and maintain economically viable mini grids, supported by subsidies that reduce initial capital outlays. There are two investment sub-components that will be implemented in parallel: a minimum subsidy tender; and a performance-based grant program that will target different sets of private developers. This component has two sub-components:

Component 1.1: Minimum Subsidy Tender (MST) (IDA US$70 million equivalent). To initiate implementation, REA will select 250 sites in areas where there is already significant private sector interest. REA will invite private developers to bid for minimum capital cost subsidies according to their business plans to provide electricity to these sites. Given the substantial number of sites and preliminary market analysis, this tender is expected to attract some international private developers to enter the market in Nigeria. Nigeria presents a high-risk, high-return opportunity. In spite of the risks, a number of large international solar developers already have presence in Nigeria, and several mini grid companies are already operating.

Component 1.2: Performance-Based Grants (PBG) (IDA US$80 million equivalent). REA will use a market-based approach to support eligible companies to deliver electricity services to new clients. REA will provide performance-based grants to mini grid operators based on new customer connections (US$/end user)9. Performance-based grants will be made available to mini grid developers on a rolling basis. Before project funding is exhausted, REA will prepare an exit strategy or plan for continuation through mobilizing of additional resources. It is expected that the performance-based grants will benefit an estimated 580 mini grid sites, about eight companies, and 230,000 new connections.

Component 2 - Stand-alone Solar Systems for Homes and MSMEs (US$305 million equivalent, of which IDA US$75 million equivalent and US$230 million from private sector funding).

The goal of this component is to significantly increase the market for stand-alone solar systems in Nigeria in order to provide access to electricity to more than one million Nigerian households and MSMEs at lower cost than their current means of service such as small diesel gensets. under this scheme, one million single solar lanterns are expected to be distributed during the course of the project. A market-based approach will be followed based on the conditions in Nigeria as well as experience in other countries.

Component 2.1: Market Scale-up Challenge Fund (MSCF) (IDA US$15 million equivalent). This catalytic fund will offer performance grants to qualified, large-scale providers to accelerate their sales to households and MSMEs. A rigorous evaluation process

and a tranche-based payout will be used to manage any risk of non-performance. The main purpose of this fund is to de-risk private sector investors and help mobilize capital for well-established firms and potential new entrants that are committed to scaling up rapidly.

Component 2.2: Output-Based Fund (OBF) (IDA US$60 million equivalent). This fund will provide grants of up to twenty percent of the costs of the system to the grantees, for each eligible system installed and verified by the private sector. This support will allow the firms to finance the required investment in people, training, advertising, processes, and logistics. It will also enable integration of women into the workforce as well as collect sex-disaggregated management information that is relevant to fulfil the government's commitments on gender. The grant amount will be fixed for each system size/level of service category and will be progressively reduced over the life of the program as the market grows. The Performance-based grants will place less emphasis than the Market Scale-up Challenge grants on evidence that the applicant has the ability to go to scale but rather on evidence of their ability to successfully service customers using pre-approved solar products. This will enable established companies to access capital for recurrent operational costs.

Component 3 - Technical Assistance (US$25 million equivalent, of which US$20 million equivalent from IDA and US$5 million equivalent from counterpart fundi1ng):
This component is designed to build a framework for rural electrification upscaling, support project implementation as well as broad capacity building in REA, NERC, FMPWH and other relevant stakeholders. It will support various activities, including but not limited to:

a. strengthening implementation capacities of REA, NERC, FMPWH, and relevant project stakeholders, such as, mini grid developers, solar firms, universities and local financial institutions, in E&S management as well as other aspects of project implementation;
b. development of strategies and studies, including the development of an electrification strategy, development of a least-cost mini grid and off-grid market assessment and plan; and energy demand studies;
c. technical assistance to assess complementary financing instruments such as debt financing through carrying out studies to determine access to finance constraints for development of mini-grids and SHSs as well as developing options and plans to mitigate such constraints;
d. improving the regulatory framework through supporting possible amendments to NERC's regulations for mini grids based on experience with implementation;
e. supporting mini grid pre-investment activities, including inter alia, geospatial scoping studies, (pre)feasibility studies, business plans, and E&S assessments;
f. carrying out studies to support stand-alone solar systems;
g. managing E&S aspects for the project, including citizen engagement and developing strategic solutions for E&S risk management for the off-grid solar systems; and
h. supporting the mapping of supply chain for mini grid industries in Nigeria.

Project Level GBV/ SEA Risk Factors

A GBV risk assessment was conducted for the project using World Bank's GBV risk assessment tool which resulted in a score of 16.25. This score corresponds with a level of **substantial risk**. Risks are linked to the following:

i. Labor Influx in communities with low absorption capacity: the different components of the project have different levels of labor associated with them. For component 1, there are significant labor influx associated with the development of the mini-grids in rural

communities where absorption capacity might be low. Labor influx in an area with low absorption capacity can result in an increase in GBV risk.

ii. Use of security personnel: armed police and military personnel shall be engaged to provide protection for the infrastructure that is being set up in some locations under component 1 of the project. These security men although not direct employees of the project, will be present at project locations and will interact with local communities where project activities are taking place.

iii. Project in hard-to-supervise areas: parts of the project are in geographically, very hard to reach areas & areas that can be considered to be of low absorption capacity for labour influx. Most of the project locations are very rural areas that are isolated, away from the national grid. These are locations that are avaeragely 1.5 hours drive from the nearest Local Government area; some are even only reachable through long boat trips in the lagoons for the niger delta area.

iv. Conflict and humanitarian setting in Borno states: Project activities will take place in Borno State under Component 3(Energizing Education Programme) . The State has been affected by the Boko Haram insurgency which has caused deaths, trauma and mass displacement of people from different locations. The project is planned to be implemented within the premises of the University of Maiduguri in the state which has been targeted by insurgents in the past. Also, the ideology that the Boko Haram insurgents are pursuing is targeted at disrupting western education system which the University system is established to promote. Furthermore, there is a large population of displaced and vulnerable people in the state with several potentially visiting and using the University of Maiduguri Teaching Hospital (one of the sites in the state) for care. These vulnerable people who are experiencing hunger, trauma and breakdown in protection structures may interact with project staff who are buoyant and this may cause some paygap exploitation.

GBV RISK MITIGATION WORKPLAN

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
1.	Component 1: Environmental and Social Management System (ESMS) template to incorporate GBV risk management and requirement for GBV training for contractor workers (including dedicated session on code of conduct.	Completed February 2021	Social Specialist	N/A		
2.	Develop TOR and hire a GBV specialist for the IA	Completed October 2021	Social Specialist (NEP-PMU), Procurement Specialist	$30,000	Head, Project Management Unit (HPMU)	**GBV Specialist Engaged**
3.	Develop TOR for GBV prevention and Response	Completed September 2021	Social Specialist (NEP-PMU)	N/A		**TOR is finalized**
4.	Engage a GBV firm to carry out the following activities across 6 states of NEP implementation and the FCT: • GBV service provider mapping • Community sensitizations • GRM protocol development and trainings	February 2023	Procurement Specialist, Social Specialist, GBV Specialist	$150,000		Firm Engaged April 2023
5.	Component 3: Standard Bidding Document to include requirements for management strategies and implementation plans (MSIP) to manage key environmental social, health and safety (ESHS)	Completed December 2021	HPMU/ EEP team/Procurement/ E&S Unit	N/A	HPMU	Oversight by WB and use of the 2017 standard bidding documents

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
	risk including GBV action plan and Code of Conduct Component 1a: Minimum Subsidy Tender: RFP to include the ESMS template with a requirement for GBV risk management including Code of Conduct Component 1b: Component 1 (performance-based grant): For Green field project developers who already submitted their proposal, developers would be required to integrate GBV risk management and response in their ESMS and GRM	On-Hold During project implementation	Procurement/ E&S Unit/Mini grid component team Mini Grid Developers Specialist/GBV Specialist	N/A N/A	E&S Specialists, HPMU	
6.	PMU to draw the attention of bidders to specific GBV requirements on the project.	Pre-bid meeting completed December 2021	Procurement lead and EEP component lead, Project Owners Engineer		GBV Specialist, Social Specialist	
7.	Review existing communication strategy to include a detailed plan for informing project-affected communities (across all project areas about GBV risks and develop a stakeholder engagement plan.	Anticipated May 2023	GBV NGO, Communications Specialist, GBV specialist	N/A	Social Specialist, HPMU	

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
8.	Identify GBV focal points at the Federal Ministry of Power and the Federal Ministry of Women Affairs and Social Development	Anticipated June 2023	GBV Specialist	N/A	Social Specialist, HPMU	Get stakeholder buy in for collaboration
9.	Engage a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with communities	Anticipated July 2023 ongoing after GBV service provider mapping exercise	GBV NGO, REA's Promotions and outreach directorate, PMU	$10,000	Social Specialist, HPMU	
10.	Review and adopt GBV mapping from those completed	Anticipated July 2023	GBV NGO	N/A	GBV Specialist/ Social Specialist	WB to provide technical support
11.	Carry out RISK ASSESSMENT= desk review + in depth interviews and focus groups to better understand the SEA/SH specific risks in the specific project areas so appropriate mitigation measures can be taken and map out GBV prevention and response actors in project adjoining communities	Anticipated July 2023	GBV NGO	GBV NGO firm contract budget	GBV Specialist, Social Specialist	WB to provide technical support
12	Complete the Accountability & Responsibility Framework as part of the action plan	Anticipated August 2023	GBV NGO, GBV Specialist	GBV NGO firm contract budget	Social Specialist, HPMU	
13.	Review and strengthen the capacity of the Implementing Agency (IA) to prevent and respond to GBV including identifying SEA/SH focal points in the IA and conducting training	Anticipated July 2023	GBV NGO and GBV Specialist	GBV NGO firm contract budget	Social Specialist and HPMU	

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
14.	Development of GBV referral pathways	Anticipated August 2023-To be completed after GBV mapping exercise	GBV NGO	GBV NGO firm contract budget	GBV specialist, Social Specialist	
15.	Review and ensure that project GRM will receive and process complaints in a timely manner and establish a mechanism to address GBV complaints including a GBV hotline. Other activities will include development of detailed GRM protocols and training of all those involved in the GRM. Work with GBV service providers so raise awareness of the GRM and refer project related cases to the GRM as per survivors wishes and consent.	June 2023- Part of contract with GBV NGO	GBV NGO, GBV Specialist	GBV NGO firm contract budget	Social Specialist,	
16.	Component 3: SEA/SH prevention and response Action Plan to be included in site-specific C-ESMPs	Completed July 2022	GBV specialist in Project 0wner's Engineer	Project budget/ Contractor's budget	Social Specialist, GBV Specialist	This is a requirement in the RFP
17.	Evaluate compliance with GBV requirements and quality of action plans prior to finalizing contract	Upon receipt of bids. Anticipated October 2022	Evaluation committee	N/A	GBV specialist, Social specialist	WB to provide technical support

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
18.	Workers understanding and Signing Code of Conduct	At contract signing	Project Owners Engineer, EPC contractor, Mini Grid developers	N/A	Social Specialist, GBV specialist	To be included in the contract package
19.	Finalize the A&R framework with Contractors	Anticipated July 2023	GBV NGO, GBV Specialist	N/A	Social Specialist	
20.	Develop Training Materials/key messages, in line with WB GBV Good Practice Note recommendations, for project workers sensitization, community awareness and for sensitization targeting IA management and Contractor management -Develop training/communication materials and translate -Print communication materials	Anticipated June 2023	GBV NGO, GBV Specialist, Communications Specialist	GBV NGO firm contract budget	Social Specialist HPMU	
21.	GBV training for EPC contractor workers (including dedicated session on code of conduct)	Once a month if there are new hires and refreshers (when necessary)	GBV Specialist in Project Owners Engineer, GBV Specialist	Part of Project owners Engineer contract	Social Specialist HPMU	

	Action to Address GBV Risks	Timeline	Responsible	Budget	Monitoring	
22.	Ensure separate shower and toilet facilities are available for male and female	As part of project implementation	EPC Contractor	Contractor's budget	Component 3: GBV Specialist in Project Owners Engineer Component 1: Project GBV specialist, Social Specialist	
23.	Site inspection to verify and ensure existence of separate shower and toilet facilities are available for male and female	As soon as contractors mobilize to site.	GBV Specialist, Social Specialist, Procurement		HPMU/ Social Specialist, Project GBV Specialist	
24.	Provide technical support and capacity building for service providers where necessary	August 2023	NGO and GBV Specialist		Social Specialist	Part of the TOR for GBV Prevention and Response

DRAFT ACCOUNTABILITY AND RESPONSE FRAMEWORK

a. Introduction

This Accountability & Response framework details how incidents of Gender Based Violence will be handled should they arise because of the intervention of the Nigeria Electrification Project (NEP) and identifies the procedures and personnel that will be involved in the response. The project is engaging a Gender Based Violence (GBV) specialist as part of the Project Management Unit (PMU) and a GBV NGO to map providers of GBV response services across 12 states of the project implementation. The project is largely private sector driven with Mini grid developers applying to the programme with a portfolio of mini grid site already under construction for the most part and require the engagement of Engineering Procurement Construction (EPC) contractors for component 3 of the programme. Contractors, therefore, have the contractual obligation to hold workers accountable to the Code of Conduct and enforce disciplinary measures. As such, this Accountability and Response Framework will be completed by the GBV specialist and the GBV NGO and finalized with input from the contractors prior to finalization of contract.

b. Guiding Principles

The response of the project to any incident of GBV will be guided by the following principles:
Survivor-centered approach: A survivor-centered approach creates a supportive environment in which the survivor's rights and wishes are respected, their safety is ensured, and they are treated with dignity and respect. A survivor-centered approach is based on the following guiding principles
Safety and Security: Ensure the safety of the survivor, child and family at all times. Remember that s/he may be frightened and needs assurance that s/he is safe. In all types of cases, ensure that s/he is not placed at risk of further harm by the assailant. If necessary, undertake a safety assessment and ask for assistance from security, police, elders, community leaders or others who can provide security with the consent of the survivor. Maintain awareness of safety and security of people who are helping the survivor, such as family, friends, counsellors, health care workers, etc.

Confidentiality: Respect the confidentiality of the survivor, child and their family at all times. If the survivor gives his/her informed consent, share only relevant information with others for the purpose of helping the survivor, such as referring for services. All written information about survivors must be maintained in secure, locked files. All identifying personal information (name, address, etc.) will be withheld in the reporting, compilation and sharing of data. Encourage other community members and actors to respect the confidentiality of the survivor and not gossip about a case which may increase the stigma of the survivor and discourage other survivors from seeking help in future. When relating to children make sure they understand that in some instances you may have to share the information with their caretakers or other appointed legal guardian to ensure the safety and security of the child.

Informed Consent: All actors must receive informed consent from the survivor, or legal guardian if working with a minor, prior to any response service or sharing of information. If the survivor cannot read and write an informed consent statement will be read up to the survivor and a verbal consent will be obtained. The survivor should have the option to provide limited consent where they can choose which information is released and which is kept confidential. The objective of informed consent is that the survivor understands what s/he is consenting and agreeing to. Children must be consulted and given all the information needed to make an informed decision using child-friendly techniques that encourage them to express themselves. Their ability to provide consent on the use of the information and the credibility of the information will depend on their age, maturity, and ability to express themselves freely.

Respect: Offer information about available support services and respect the choice of the survivor concerning which services s/he wishes to access. Maintain a non-judgmental manner; do not judge the person or her/his behavior or decision. Be patient; do not press for more information if s/he is not ready to speak about it. Ensure that children are participating in the decision-making process of services they can access, and are involved in all decision making processes regarding referral and access to services.

Non-Discrimination and Impartiality: Ensure non-discrimination and impartiality in all interactions with survivors and in all service provision. All actors should provide services without discrimination based on age, sex, religion, clan, ethnicity, wealth, language, nationality, status, political opinion, culture, etc. All actors must be impartial.

Do No Harm: When documenting, reporting, monitoring or providing a service to a survivor, ensure that risks are not greater than the benefits to the survivor. Best Interest of the Child: In all cases concerning a child, the best interest of the child should be the primary consideration. Apply all the listed guiding principles to children, including their right to participate in decisions that will affect them. A child should be listened to and believed in, and their concerns should be taken seriously. If a decision is taken on behalf of the child, the best interests of the child shall be the overriding guide and the appropriate procedures should be followed. Best interest determination guidelines can also be consulted.

c. SEA/SH Grievance Mechanism

The project established a project level Grievance Redress Mechanism (GRM) with pathway for GBV incidents reporting at project preparation. However, because of the sensitivities involved and the potential for harm to the survivor, managing SEA/SH allegations requires a different approach from other types of claims raised through project-level GRMs. As such, the project GRM will be reviewed by the GBV NGO and the GBV specialist and revised to include a protocol to address GBV complaints. When completed, the Grievance Mechanism (GM) will include:

1. **Model**: The SEA/SH GM model to be utilized will be determined by the GBV NGO.

2. **Entry points:** Details of entry points where survivors feel safe and encouraged to come forward, which may serve as channels for reporting will be identified by the GBV NGO during community/stakeholder engagement as part of contract obligations for the mapping of GBV service providers.

3. **Service provider referrals and resources**: The GBV NGO will carry out mapping of GBV service providers and develop a pathway to refer survivors to GBV service providers and also explain how the referral pathway will be used by GM operators to make referrals.

4. **Operating protocol or procedures for SEA/SH GM model**: The GBV NGO with support from the GBV specialist will develop a standalone protocol for handling SEA/SH allegations. The protocol will cover what will happen if an SEA/SH allegation is raised with the GM, how survivors will be provided with complete information about their options and referrals, and the plan for ethically collecting, sharing and storing data. The protocol will also outline how the GM will notify the PMU if the survivor chooses to report the allegation to the project and the contractor for potential action. This is anticipated to happen in December 2021.

5. **Training of SEA/SH GM actors:** The GBV NGO will identify and provide specialized training for all actors involved in the SEA/SH GM while the GBV specialist will provide ongoing support to enable them (i) to interact with survivors in an empathetic, non-

judgmental way that prioritizes confidentiality and survivor choice; and (ii) to address the allegations in accordance with the protocols for SEA/SH cases.

6. **Communication:** The project Communications strategy will be reviewed and revised by the GBV NGO, the Communications, GBV and Social Specialists respectively to include key GBV messages, the requirements of Codes of Conduct and the behavioural standards they impose on project workers including a protocol to help communities understand (i) where to seek help and the GM channels available, (ii) what to expect if a complaint is raised, and what the GM and project will—and will not—be able to do and (iii) expectations for confidentiality. The protocol for these communications will also be outlined in the Stakeholder Engagement Plan to be developed by the Communications Specialist with support from the GBV Specialist and the Social Specialist.
7. **Timeline and budgets:** The time frame for finalizing the GM structure, the development of protocols, training of SEA/SH GM actors and other related tasks, as well as the budget will be finalized after contract negotiations with the GBV Specialist and GBV NGO. However, a tentative budget of $190,000 has been approved in the project procurement plan.

d. Referral Pathways and GBV Service Providers

The project is yet to map service providers within the project's area of influence. However, there are some information collected from other projects in the shared database of the WB. The GBV Specialist and GBV NGO for this exercise will review the information prior to the mapping and include this information before finalizing the A&R framework.

e. Project-Level Incident Response (Actions by PIU and Contractor)

We have noted that any investigation that takes place by the contractor into an employee's allegedly wrongful will be in line with the contractor's policies and with local labour law, which typically has a lower standard of evidence than criminal law. Thus, it is possible for an employee to be disciplined or terminated, even if the survivor does not choose to report to the police.

The plan for developing the system for incident response in line with established protocols, and ensure that CoCs are enforced, will be completed by the GBV specialist and the GBV NGO bearing in mind that the GM operator, the PIU or contractor, will not conduct a law enforcement investigation into an incident and that the survivor reserves the right to decide whether to report the case to the police or other justice sector.