



## **ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)**

### **DR CONGO GREEN MINI-GRID PROGRAM**

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## EXECUTIVE SUMMARY

The Democratic Republic of Congo (DRC) is the second biggest and fourth most populated country in Africa, which spreads over 2,345,441km<sup>2</sup> with a population of 78.7 million. Yet the DRC has one of the lowest rates of electrification in the world. Only approximately 10% of the population has access to electricity, 35% in urban areas (44% in Kinshasa) and less than 1% in rural areas. The national utility company, SNEL (Société Nationale d'Electricité), accounts for 94 % of the total installed capacity (2,677 MW) and nearly all electricity is produced from hydropower. In off-grid areas, electricity demands are met with small, scattered diesel generators, kerosene lamps and battery torches. Their fossil fuel dependence, which is unsustainable and costly, is expected to intensify as the population and power demand grow. With limited grid expansion prospects in near future, power sector development in the DRC will continue to rely on inefficient off-grid solutions with a high carbon footprint if not triggered to shift to a low emission pathway.

Recently, green mini-grid is gaining attention as an alternative solution to reverse this trend and accelerate energy access. Since the liberalization of the electricity sector in the DRC (the 2014 Electricity Law), a few local distribution concessionaires and individual mini-grid projects have emerged. Still, this has been done in a sub-optimal and heterogeneous manner primarily because of the lack of clear national regulation in the sector. Private investment to mini-grid has been slow, and clear barriers exist toward its full commercial viability especially for renewable energy mini-grid. In response to this challenge, the Eссор Access to Electricity (Eссор A2E), a technical assistance program financed by DFID, is assisting the Congolese Government (GoDRC) to accelerate, optimize and standardize the development of private-led and renewable-based mini-grids across the country by building a robust, bankable and replicable structure.

Targeting mini-grid projects selected under the DFID-Eссор A2E initiative, the AfDB-GCF Green Mini-Grid Program for the DRC (the Program) will pilot an innovative mini-grid model powered by solar, bringing clean and modern energy to sizeable towns. The Program will finance three solar hybrid mini-grid projects procured through a competitive tendering process in the towns of Isiro, Bumba and Genema (with 460,000 inhabitants altogether), each consisting of a hybrid PV power plant of 5-10 MW and associated distribution networks to reach consumers. The overall number of connections (domestic and commercial) is expected to reach approximately 12,400 connections in Year 1 and 23,300 connections in Year 5 with a 24 hours-a-day service. The procurement of the three pilot concessions is to be handled by a public agency within the Ministry of Energy Hydraulic Resources, namely the “Unité de Coordination et de Management” (UCM). The total cost of three projects is estimated at USD 87 million at COD, of which up to US\$ 40 million would be financed by AfDB and GCF senior debts and the rest by equity and quasi-equity including investment grant. Under this programmatic approach, a financing package arranged by the AfDB will be offered to pre-qualified bidders as a recommended option. Awarded sponsors will create individual special purpose vehicles (SPV)

and are expected to enter into concession agreements with the central government for a 20-25 year period<sup>1</sup>.

Each mini-grid project comes with two components – Component 1 covering solar PV generation plant and battery storage, and Component 2 covering distribution network, connections and backup. AfDB and GCF investment is only to cover the financing needs for renewable energy assets (i.e. solar PV and battery – Component 1) and not infrastructure and any other backup. Anticipated contributions to the CAPEX from other development partners in the form of grant or other quasi-equity (to be determined – discussions ongoing) is to support financing of the emergency backup, distribution networks and households connection (Component 2), which will serve as public infrastructure to ensure reliability through 24 hours energy supply with maximum coverage across customer segments, including essential public services such as water supply and hospitals.

In addition, the AfDB has set aside USD 1 million grant for complementary technical assistance (TA), from the Sustainable Energy Fund for Africa (SEFA) hosted by the AfDB, where GCF co-financing of USD 1 million grants is requested. The TA activities will strengthen the enabling framework for green mini-grid development in the DRC; build key institutions' capacity to manage and implement green mini-grid projects; and support project-level preparation of three mini-grids as well as additional mini-grids in other sites in the DRC.

AfDB has adopted an integrated Safeguard System (ISS) consisting of Integrated Safeguards Policy Statement and a set of Environmental and Social Performance Requirements. The Bank ISS is aligned with other IFIs, such as the WBG, IFC, and the Green Climate Fund. AfDB also maintains Environmental and Social Assessment Procedures (ESAPs), which outline the process by which Bank staff process and monitor projects in accordance with the Bank ISS.

In accordance with AfDB's ISS, all subprojects in this program will undergo environmental and social appraisal both to help AfDB decide if the project should be financed and, if so, the way in which environmental and social risks and impacts should be addressed in its planning, implementation and operation. The appraisal process also identifies opportunities for additional environmental or social benefits. AfDB seeks with its ISS and environmental and social appraisal and monitoring processes that projects are designed, implemented, and operated in compliance with applicable regulatory requirements and good international practice.

Each sub-project to be considered under the AfDB-GCF DRC Mini-grid Program will be subject to full project and sponsor-specific environmental and social due diligence utilizing the AfDB's ISS. AfDB anticipates that all subprojects under the program will potentially generate moderate environmental and social risks, equivalent to Category 2 in AfDB's risk category. On the basis

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<sup>1</sup> A 20-year concession period was assumed in the financial model and pre-feasibility studies. The exact concession period will be determined by the GoDRC before the launch of the tender.

of this each Sub-project will be individually reviewed and categorized, and due diligence will be undertaken accordingly.

Under GCF's "Comprehensive Information Disclosure Policy of the Fund," this Framework would be categorized according to the anticipated risk profile of the individual subprojects would require site-specific assessments consistent with the approach of AfDB. With this in mind, Category 1 projects will be excluded from receiving GCF financing so that this framework will overall be considered Category 2.

This document presents the environmental and social management framework (ESMF) that has been developed for this programme that describes how the programme through the accredited entity and the clients will manage the environmental and social risks and impacts. This ESMF sets out:

- The rationale for the proposed AfDB-GCF DRC Mini-grid program, including a description of the program and the proposed approach.
- A summary of relevant, available environmental and social baseline information and referencing of source data. The environmental and social context of the project is also provided.
- Typical environmental and social issues associated with the Framework are provided and details of best practice for mitigation of any such risks and impacts.
- The summary of AfDB's environmental and social policies and procedures, including the requirements and the key steps for project appraisals.
- AfDB's stakeholder engagement requirements and project redress mechanism.



## **PROGRAMME BACKGROUND AND DESCRIPTION**

### **Background and project description**

The Democratic Republic of Congo (DRC) is the second biggest and fourth most populated country in Africa, which spreads over 2,345,441km<sup>2</sup> with a population of 78.7 million. Yet the DRC has one of the lowest rates of electrification in the world. Only approximately 10% of the population has access to electricity, 35% in urban areas (44% in Kinshasa) and less than 1% in rural areas. The national utility company, SNEL (Société Nationale d'Electricité), accounts for 94 % of the total installed capacity (2,677 MW) and nearly all electricity is produced from hydropower. The DRC has no national-wide transmission network and only three regional grids are covering parts of the country; hence there is a sizeable gap between the rate of electrification in Kinshasa and the rest of the country. In off-grid areas, electricity demands are met with small, scattered diesel generators, kerosene lamps and battery torches. Their fossil fuel dependence, which is unsustainable and costly, is expected to intensify as the population and power demand grow. With limited grid expansion prospects in near future, power sector development in the DRC will continue to rely on inefficient off-grid solutions with a high carbon footprint if not triggered to shift to a low emission pathway.

Recently, green mini-grid is gaining attention as an alternative solution to reverse this trend and accelerate energy access. Since the liberalization of the electricity sector in the DRC (the 2014 Electricity Law), a few local distribution concessionaires and individual mini-grid projects have emerged. Still, this has been done in a sub-optimal and heterogeneous manner primarily because of the lack of clear national regulation in the sector. Private investment to mini-grid has been slow, and clear barriers exist toward its full commercial viability especially for renewable energy mini-grid. In response to this challenge, the Essor Access to Electricity (Essor A2E), a technical assistance program financed by DFID, is assisting the Congolese Government (GoDRC) to accelerate, optimize and standardize the development of private-led and renewable-based mini-grids across the country by building a robust, bankable and replicable structure.

Targeting mini-grid projects selected under the DFID-Essor A2E initiative, the AfDB-GCF Green Mini-Grid Program for the DRC (the Program) will pilot an innovative mini-grid model powered by solar, bringing clean and modern energy to sizeable towns. The Program will finance three solar hybrid mini-grid projects procured through a competitive tendering process in the towns of Isiro, Bumba and Genema (with 460,000 inhabitants altogether), each consisting of a hybrid PV power plant of 5-10 MW and associated distribution networks to reach consumers. The overall number of connections (domestic and commercial) is expected to reach approximately 12,400 connections in Year 1 and 23,300 connections in Year 5 with a 24 hours-a-day service. The procurement of the three pilot concessions is to be handled by a public agency within the

Ministry of Energy Hydraulic Resources, namely the “Unité de Coordination et de Management” (UCM). The total cost of three projects is estimated at USD 87 million at COD, of which up to US\$ 40 million would be financed by AfDB and GCF senior debts and the rest by equity and quasi-equity including investment grant. Under this programmatic approach, a financing package arranged by the AfDB will be offered to pre-qualified bidders as a recommended option. Awarded sponsors will create individual special purpose vehicles (SPV) and are expected to enter into oncession agreements with the central government for a 20-25 year period<sup>2</sup>.

In addition, the AfDB has set aside USD 1 million grant for complementary technical assistance (TA), from the Sustainable Energy Fund for Africa (SEFA) hosted by the AfDB, where GCF co-financing of USD 1 million grants is requested. The TA activities will strengthen the enabling framework for green mini-grid development in the DRC; build key institutions’ capacity to manage and implement green mini-grid projects; and support project-level preparation of three mini-grids as well as additional mini-grids in other sites in the DRC.

### **Program specific details**

The preparation of the mini-grid projects has been led by the DIFD-supported Essor Access to Electricity (Essor A2E) program which aims at supporting the development of green mini-grid solar projects in the DRC over the next few years. Phase I will procure three solar PV mini-grids projects through a competitive tendering process (to be launched in Q3 2018) in the cities of Isiro, Bumba and Genema. The subsequent tenders will replicate the scheme and scale up investment to the sector. Envisioned mini-grids would consist of hybrid PV power plants, back up diesel generation, and battery storage (equivalent to 24 hours consumption) with associated 15kV distribution and LV networks to reach scattered consumers. Each mini-grid will aim to connect around 10,000 households and businesses over the life of the projects. It is estimated that around 80-85% of generation will be from solar PV and the balance will be diesel-based. Anchor customers such as REGIDESO (water supplier with envisioned escrow account mechanism) and SMEs will be identified for each mini-grid. The AfDB is engaging closely with the Essor program to provide debt financing and arrange co-financing from the GCF and others for three selected projects as a lead arranger.

Each mini-grid project comes with two components – Component 1 covering solar PV generation plant and battery storage, and Component 2 covering distribution network, connections and backup. AfDB and GCF investment is only to cover the financing needs for renewable energy assets (i.e. solar PV and battery – Component 1) and not infrastructure and any other backup.

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<sup>2</sup> A 20-year concession period was assumed in the financial model and pre-feasibility studies. The exact concession period will be determined by the GoDRC before the launch of the tender.

Anticipated contributions to the CAPEX from other development partners in the form of grant or other quasi-equity (to be determined – discussions ongoing) is to support financing of the emergency backup, distribution networks and households connection (Component 2), which will serve as public infrastructure to ensure reliability through 24 hours energy supply with maximum coverage across customer segments, including essential public services such as water supply and hospitals.

### **Preliminary Design of the Mini-Grids**

- Each mini-grid would consist of a hybrid solar PV power plants of around 5-10 MW (at COD), offering 24 hours electricity supply.
- It is estimated that 80-85% of generation will be from PV and the balance will be diesel based. A hybrid model was optimized to minimize the overall investment cost and impact on tariffs.
- Each system will have associated 15kV distribution and LV networks to reach scattered consumers.
- The overall number of connections is expected to reach approximately 12,400 connections in Year 1 and 23,300 connections in Year 5. Anchor customers include REGIDESO (water supplier) and SMEs.
- Additional CAPEX is expected after COD for generation/connection extension & battery replacement, to reach total 50,000 connections by Year 20.
- Payment by end-users will be based on a prepaid system with mobile money.
- With power output around 5-10 MW. Expected land use is about 22.5-75 acres for single Mini-Grid<sup>3</sup>. Water utilization for panels/modules cleaning is expected to range from 91,054.35 -485,623.2 Litres per mini-grid plant <sup>4</sup>.

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<sup>3</sup> Based on the estimation that, the land required for a 1 MW power plant setup is around 4.5-5 acres for Crystalline technology and around 6.5-7.5 acres for Thin-Film technology, it is anticipated that, a single Mini-grid design in the program will have a range of 5-10 MW capacity.

<sup>4</sup> The quantity of water required varies according to available cleaning technologies and the local climate, however approximately 1.6 litres per m<sup>2</sup> of PV modules may be required. Estimates are also based on the land required for a single mini-grid.

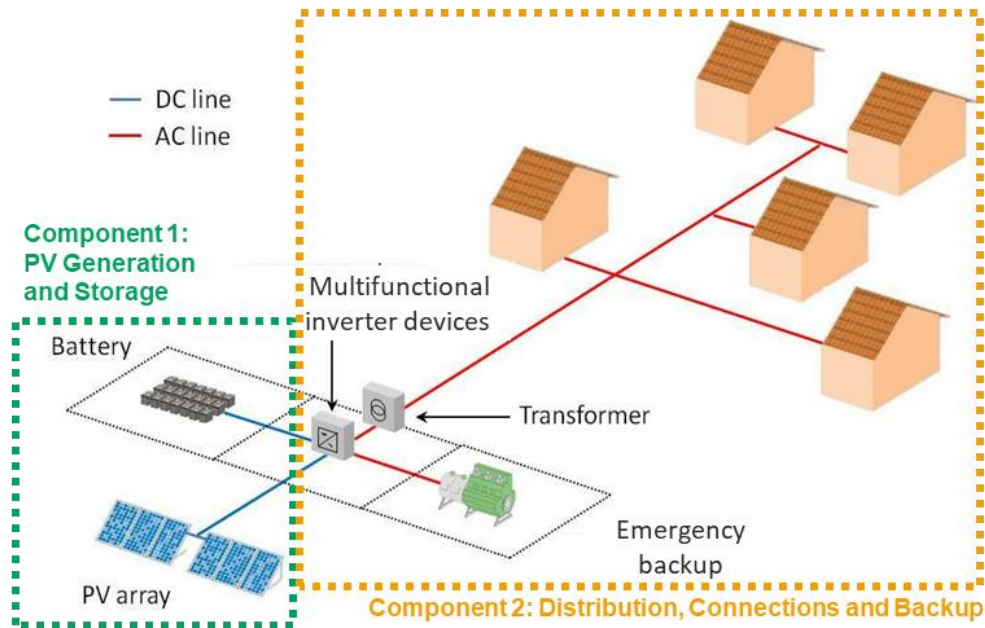


Figure 1: Preliminary design of the Mini-Grids

**The projects seek to deliver on the main following outcomes:**

- Lower barriers to entry for the market and attract investors for the development of privately led mini-grids through a well-structured and transparent tendering process. Most of the development risks are being borne by DFID and the AfDB funding for the necessary technical studies and legal and financial advisors for the structuring of the tendering process.
- Increased access to electricity is expected after full roll out of the project by providing energy network servicing a large number of clients independently of the national grid. This first phase will provide access to clean, reliable and more affordable energy to at least 150,000 people with no or limited access to energy in the DRC. The program will demonstrate a viable model for private-led mini-grid financing in urban areas, which will open up a market for mini-grids investment in other parts of the DRC and Sub-Saharan Africa.
- Increased productive use of energy that will drive local development. In fact, more affordable and reliable electric supply will lead to more efficient allocation of precious resources toward other uses such as new investments, leading to additional productivity, economic growth and job creation.
- Improve environmental sustainability of electricity generation in the DRC through renewable energy generation which produces considerably less emissions than diesel or fossil fuel alternatives with minimal social impact as it is not anticipated that these solar mini-grids would lead to any resettlement.

- Provide opportunities for local communities and participate in building resilient societies through inclusive and green growth. The program will strongly reinforce economic and social resilience of low income population living in climate vulnerable areas. The program will consider promoting local employment as well as consider how opportunities for girls and women may be maximized and potential negative impacts may be avoided.

### **1.1 Environmental and social management framework (ESMF)**

Since the details of sub-projects and beneficiary communities have not been defined in detail, an Environmental and Social Management Framework (ESMF) will be appropriate in ensuring Environmental and Social Considerations are integrated during the implementation of the programme sub-projects which will be identified. Once the sub-projects, specific sites, associated infrastructure and the beneficiary communities have been defined, all subprojects and activities will be screened, and the appropriate Mitigation tools such as ESIAs, ESMPs, RAP and other appropriate management tools will be developed as may be applicable in line with the provisions of the local regulations and AfDB safeguards. The objectives of this ESMF are:

- To establish clear procedures and methodologies for the environmental and social planning, review, approval, and implementation of sub-projects-to be financed under the AfDB-GCF program;
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects;
- To provide practical resources for implementing the ESMF, including general guidance on the development of ESMPs and their implementation.

## **ENVIRONMENTAL AND SOCIAL BASELINE**

### **Key Environmental problems in DRC**

DRC is within the tropical Congo Basin rainforest in Central Africa. Almost 60% of DRC's area is constituted by forests, while agricultural land amounts to 10%. The climate varies from hot and humid in the equatorial river basin; cooler and drier in the southern highlands; and cooler and wetter in the eastern highlands. Key environmental problems in DRC include (not in order of priority and described in detail below): land degradation, deforestation, loss of biodiversity, water pollution, and in Kinshasa air pollution. The conflicts are in themselves a source of environmental degradation. Natural hazards and disasters include seismic activities with landslides, floods and droughts. Climate change is expected to increase frequency of and

vulnerability to natural disasters (floods, droughts, and heat waves), and affect land productivity and livelihood opportunities.

### **DRC Energy Regulatory Framework**

The electricity sector is dominated by the Société nationale d'électricité (SNEL), the formal national utility enterprise responsible for 94% of all electricity production with 50+ power plants (15 hydroelectric and 36 thermal). SNEL has a mandate for electricity generation, transmission, distribution and trading of power in the DRC.

The Government is supporting strategic development and reforms in the power sector, which is in the midst of a significant transition. Key objectives have been outlined for the energy/electricity sector that include liberalisation, increased transparency, and the attraction of a greater number of national and international private and public partners.

The law n°14-011 dated 17 June, 2014 (the “Loi sur l’Electricité”) regulates the electricity sector. It provides inter alia for a diversification of the energy mix; a focus on a greater energy productivity through energy conservation and efficiency measures; and energy pricing policies that reflect economic costs for both suppliers and users in the domestic energy market.

The 2014 Loi sur l’Electricité liberalises the generation, transmission, distribution and export of electricity. SNEL was transformed into a commercial limited liability company in 2011 (the process begun in 2009). The 2014 Loi sur l’Electricité has put an end to the de facto monopoly of SNEL in the generation, transmission, and distribution of power and the DRC energy market is now open to independent power producers (subject to the compliance with the provisions of the Loi sur l’Electricité).

This law introduced the creation of two institutions under the supervision of the Ministry of Hydraulic Resources and Energy (Ministère de l’Energie et des Ressources Hydrauliques, “MERH”):

- The Electricity Regulatory Authority (Autorité de Régulation de l’Electricité, “ARE”): will have the mandate of monitoring sector reforms and private sector participation (including tariff settlement). Decree n°16/013 dated 21 April 2016 provides for the creation, organisation and functioning of the ARE.
- The National Agency for the Electrification of Rural and Peri-urban areas (Agence Nationale des Services Energétiques Ruraux , “ANSER”): Will have the mandate of increasing access to energy services in rural and peri-urban areas and will be in charge of accompanying the private or community project leaders. A Decree n°16/014 dated 21 April 2016 provides for the creation, organisation and functioning of the ANSER.

These two agencies are still in the process of being created.

## **Regulatory framework for Environmental Management**

The institutional framework for environmental governance in DRC revolves around three main actors:

- the State and its agencies, especially the Ministry of Environment, Nature conservation and Tourism as well as other Ministerial Departments, administrative divisions (provinces, districts, villages);
- local communities, which are gradually growing in importance; and
- users (private sector, civil society).

DRC has a legal and regulatory framework that obliges private or public promoters of projects to draw an impact study or an environmental impacts notice and to request the prior opinion of the Minister in charge of environmental protection before any project action is commenced. These texts include:

### **i. The Constitution**

The constitution, also known as the Constitution of the Third Republic was adopted by government 18th February 2006. Article 53 states that:

- Every person has a right to a healthy environment and which is favourable to his/her full development.
- The environment must be protected.
- The State must look after the protection of the environment and the health of the people.

Article 123 of the Constitution makes provision for laws to be made concerning, *inter alia*, “the protection of the environment and tourism”. Article 203 allows for co-operative governance by central government and the Provincial administrations “to protect the environment, natural sites and landscapes, and the conservation of such sites.”

### **ii. Forest Code of 29 August 2002**

- Creation of “Forêts classées”
- Overall protection statute as public domain
- Management by the Minister of Environment (MECNT)
- Beyond forests

### **iii. Nature Conservation Law of 22 August 1969 :**

- Covers National Parks (réserves naturelles intégrales)
  - Management by ICCN (Institut Congolais pour la Conservation de la Nature)
  - Prohibit incompatible activities with nature protection
  - Broad interpretation
- iv. Principles of Environmental Protection Law (19 July 2011): In July 2011, the DRC government enacted the Environmental Framework Law (Loi n°11/009 du 09 juillet 2011 portant principes fondamentaux relatifs à la protection de l'environnement), which establishes fundamental principles relative to the management and protection of the environment. The law extends the environmental regulatory framework beyond the mining sector and also emphasizes a social component in the assessment process, obliging proponents of industrial projects to perform an ESIA and public consultation. Prohibit activities that "harm" environment
- Covers protected areas
  - No right to be given within these limits that harm environment
  - Polluter pays" principle (Art.12)
  - Required ESIA (Art. 21 & 22)
  - Required environmental "audits" (Art. 23)
  - Public involvement (Art. 24)
  - Fund for environmental interventions (Art. 25)
  - Obligate restoration (Art. 44)
- v. Décret n° 14/019 du 02 août 2014 fixant les règles de fonctionnement des mécanismes procéduraux de la protection de l'environnement (Decree No.14/019 of August 02, 2014 which provides regulation for functions, mechanisms and procedures related to environmental protection. This decree provides for procedures and requirements for undertaking Environmental studies (Strategic Environmental Assessment (SEA), ESIA studies), public involvement, public disclosure etc. Also in its Annex, the decree provides categorical lists of projects to be subjected to Environmental Assessment studies. ***Notably: Solar energy projects have been listed among the projects in Infrastructure development, agriculture and Livestock development category.***
- vi. Law No.14/003 of February 11, 2014 on Nature conservation: this law compliments the DR Congo Constitution which recognize the need for conservation of biological diversity (Article 202, litera f), and therefore lays a framework for Management of natural resources in DRC. The law was enacted to support the national government strategies



concerning the conservation of nature. This law repeals the Ordinance Law No 69-041 of 22 August 1969 on the Conservation of Nature and introduces important innovations in the protection of the environment. The innovations include public participation in the decision-making process, local communities involvement in the strategic steps for establishing and managing protected areas, social and environmental impact studies for all projects relating to the creation of protected areas, traditional knowledge on nature conservation, access to biological and genetic resources, just and equitable benefits derived from resources. Strong measures and criminal provisions are defined through six chapters: General Dispositions; Conservation Measures; Biological and Genetic Resources and Traditional Knowledge; Financial mechanisms; Infractions and Punishments and the Final Repeal clauses.

### **Institutions responsible for environmental management in DRC**

#### **Ministry of Environment, Nature Conservation and Tourism (MENCT)**

The Ministry of Environment is responsible for the implementation of the Government's policy on environment and sustainable development, and the Minister for Environment, Nature Conservation and Tourism is responsible for clearance/issuing certificates of the ESIAs in DRC.

The ministry has experienced several changes in name and associated responsibilities: directorates of nature conservation, land affairs, tourism, water and forests have all been included and excluded at various times since the ministry was created under Ordinance No 75-231 of 22 July 1975. This piece of legislation gave the ministry responsibility for environmental impact studies (Etudes d'Impact Environnemental (EIE)).

This was reinforced in Ordinance No 07/018 of 16 May 2007, which specifies the responsibilities of the Ministries, where the President of the DRC gave authority for the management of EIA to the then named Ministry of the Environment, Nature Conservation, Water and Forests (now known as the Ministry of Environment, Nature Conservation and Tourism (MENCT)). However, in the same Ordinance, the president gave responsibility for all matters relating to mines, including environmental issues, to the Ministry of Mines, specifically to the Director of the Department for the Protection of the Mining Environment (DPEM). This situation has created a conflict between the two ministries where the former has general competence in the environmental sector and the second has limited competence relating to the environment in the mining sector.

There are many Directorates within the MENCT but the main Directorates with responsibility for EIA are described below:

#### **Environment – Groupe d'Etudes Environnementales du Congo (GEEC)**

In ministerial Order No 044/CAB/MIN/ECN-EF/2006 of 8th December 2006, the MENCT created an agency for EIA administration and approval called *Groupe d'Etudes Environnementales du Congo (GEEC)*. A further ministerial order No 008/CAB/MIN-EF/2007 of 3rd April 2007 amended and completed the institution of GEEC. GEEC is a technical structure within the Ministry responsible for the administration of EIA in the country. Its main objectives are:

- To conduct and coordinate the activities relating to environmental and social impact studies (ESIS);
- To define the procedure of ESIS in the DRC;
- To ensure that the execution of all projects or development programmes is undertaken according to strict environmental and social standards;
- To promote capacity building within Congolese administrative structures and within public and private investors in matters relating to ESIS;
- To promote consultation and information sharing with the public concerning the management of the environment; and
- To present an annual State of Environment report for the country.

The creation of GEEC demonstrates the political will of the DRC government to make sure that all development projects will safeguard the biophysical and social environment. The scope of GEEC extends over all projects which may impact on the environment, across all sectors, with the current exception of mining.

The infrastructure portfolio in the GEEC categorization includes Component A projects relating to roads, water and sanitation, generation and transmission of electricity, anti-erosion works and involuntary resettlement of people. The Social-Agriculture portfolio includes Component B projects such as: distribution and production of genetically modified seed, artisanal fisheries, rehabilitation of rural tracks and roads, community development such as health, education, water and sanitation and social protection of vulnerable people such as the aged, women and AIDS orphans.

When required, GEEC convenes a multi-sectoral committee of about 20 people to review EIAs, with representatives from MENCT (through the *Direction des Etablissements Humaines et Protection de l'Environnement*), ICCN, Agriculture, Health, etc.,.

## **Sustainable development**

The Directorate of Sustainable Development was created by Ministerial Order No CAB/MIN/AFF-ET/049/01 of 3rd December 2001 with the aim of assuring the implementation of the activities, recommendations and resolutions of the World Commission on Sustainable Development and of the Conference of the Parties to the Conventions on Biodiversity, Climate Change and Desertification.

## **Ministry of Mines**

Since the mining sector is one of the most active parts of the economy and has the potential to incur serious environmental impacts, major activities such as exploration, mining and quarrying, already have a formal requirement for an EIA in the DRC. Ministry of Mines have two section dealing with environmental management, these include:

### **Directorate of Mines**

The Directorate of Mines is responsible for inspecting and supervising mining activities and quarry works with regard to safety, health, work procedures, production, transport, sale and social matters.

### **Department in Charge of the Protection of the Mining Environment**

Article 15 of the Mineral Code makes provision for the establishment and powers of a Department in Charge of the Protection of the Mining Environment (DPEM). In co-ordination with the other State entities responsible for the protection of the environment, the DPEM within the Ministry of Mines exercises the powers which are devolved to it by the present Code and by all other regulations regarding the protection of the environment, in particular:

- a) The definition and the implementation of the mining regulations concerning environmental protection with regard to:
  - The rules governing exploration;
  - The rules governing artisanal miners;
  - The guidelines for exploration and exploitation activities for mines and quarries
  - The conditions to supervise the obligations with regard to environmental protection.
- b) The technical evaluation of the Mitigation and Rehabilitation Plan in relation to the prospecting operations for mineral substances classified as mines and quarries; and,

- c) The technical evaluation of the Environmental Impact Study (EIS) and the Environmental Management Plan of the Project (EMPP) presented by the applicants requesting mining or quarry exploitation rights.

### **Comparison between DRC Environmental legislation and AfDB Operational Safeguards**

A comparison between DRC Environmental legislations and the AfDB operational safeguards reveals slight significant differences or gaps. The two sets of policies and legislation recognize the importance of environmental and social benchmarks in order to mainstream environmental and social issues in a development project and will play a complementary role in the project.

Generally, DRC environmental legislations on Environmental and Social Assessments compliment AfDB Operational safeguards (specifically OS 1) on both social and environment. DRC has anchor legislations (as presented in the previous sections) which consider both the environmental and social risks on projects. Difference exists mainly in the screening towards required levels of assessments where DRC directs undertaking of ESIA or Environmental Impact Study Notice for its development projects. This can, however, be overcome by consultations before undertaking EIA studies between the Project Management Unit (UCM) under the Ministry of Energy, the Bank team and the GEEC under the Ministry of Environment to agree on the instruments and categorization that meet/satisfy the requirements of all stakeholders. The ESMF is, however, not a national requirement in DRC but can be shared with the Ministry of Environment/GEEC for their planning and records. In situations where, a subproject or activity does not require a safeguards instrument as in the project environmental assessment categorization as per DRC Environmental Code requirements, an ESMP will be prepared, as a minimum, to ensure that any safeguard issues are addressed. Furthermore, the more stringent approach will be applied in a situation where gaps are noted.

### **Energy sector overview**

The DRC has one of the lowest rates of electrification in the world. Only approximately 10% of the population has access to electricity, 35% in urban areas (44% in Kinshasa) and less than 1% in rural areas. Number of people without access to electricity is 68 million in 2016, while the DRC targets universal access by 2050. Nearly 95% of the country's electricity (2,677 MW) is currently produced by hydropower plants. Total installed capacity of hydropower is 2,542 MW which has seen little change over the past 30 years due to a lack of new investments. Of this, only half of this potential is actually generated (producing about 8 349 GWh/year) due to breakdown, maintenance issues and low-water level. Most hydropower stations in the DRC are not operational at their full capacity as they suffer from the lack of spare parts and equipment maintenance. Moreover, the DRC has no national-wide transmission network. There are only

three inter-provincial grids in the West (Central Congo and Kinshasa), East (North and South Kivu), and South (Haut-Katanga, Lualaba) of the country. Some mining companies have developed their own power generation including small-hydro power, however, these do not supply electricity to surrounding population in most of the cases. In several towns, power is supplied by few formal independent power companies such as EDC in Tshikapa, Virunga SARL in Mutwanga and Matebe, Enerka in Mbuji-Mayi, but also by mining companies such as SOKIMO (connecting local communities as part of community engagement initiatives) and faith-based and non-governmental organizations (NGOs).

A poor quality of electricity services is prevalent, with blackouts and generally low reliability of power supply all too common place in the DRC. Accumulated delays in investments in power infrastructure, the degradation of hydro power plants, an over-reliance in unaffordable thermal power generation in provincial towns together with a rapid increase in electricity demand (which tripled over the last decade), resulted in large electricity shortages, which peaked at about 30% of power demand in 2012-2013. This low level of access to reliable energy is an important barrier to economic growth.

## **Energy Resources in DRC**

### **Biomass**

The DRC has around 125 million hectares of forest, representing 67.7 per cent of the country's land base (World Bank, 2015d). Most of the primary energy consumption is supplied by wood from these forests. There is also potential for biogas from plant and animal wastes. However, there are some barriers to development, including the high cost of digesters in relation to average incomes and the lack of training of users and maintenance staff.

### **Hydropower**

The DRC has huge hydropower resources, estimated at 774 GWh, the highest in Africa. It is estimated that if developed, this resource has the potential to create revenues for the country of over 6 per cent of GDP.

The current level of exploitation is about 3 per cent of the country's economically exploitable capability and hydro provides almost all the country's electricity. The national electricity organization has 17 hydro plants with a total rated capacity of 2,410 MW. The two largest are Inga 1 (351 MW) and Inga 2 (1,424 MW) with new plants Inga 3 (4,320 MW) and Inga 4 in the planning phase.

The massive Grand Inga (40,000 MW) is also planned and through interconnections between power pools, it should promote greater energy trade. Grand Inga plans to supply the following

power pools: the South African Power Pool (SAPP), West African Power Pool (WAPP), East African Power Pool (EAPP), Central Africa Power Pool (CAPP) and the Comité Maghrébin de l'Electricité.

### **Oil and natural gas**

By the end of 2011, the DRC was estimated to have proven recoverable oil reserves of 1,600 million barrels and production figures at the end of the same year were 8.06 million barrels.

Although the DRC has huge oil reserves, there is no oil refinery and all refined petroleum products have to be imported. The eastern part of the country suffers from untimely supply making the costs rise steeply. Data from 2008 showed that the DRC had natural gas reserves of 991.1 million m<sup>3</sup>. Proven natural gas recoverable reserves at the end 2011 were 0.1 bcm (WEC, 2013). There was no production, consumption, importation or exportation of natural gas.

### **Coal**

The recoverable coal reserves were estimated at 88 million tonnes by the end of 2011. These reserves are of the bituminous type including anthracite (WEC, 2013).

### **Wind**

Nationwide wind speeds tend to be low, averaging 1.4 m/s. However, in Ugoma, wind speeds of up to 6.6 m/s have been measured. It is estimated that the potential for wind energy is about 77,380 MW, but it is uncertain how much of this is commercially viable.

### **Geothermal**

The eastern part of the DRC where volcanoes and active geothermal sites exist presents huge potential for the exploitation of geothermal energy. The temperatures in hot springs range from 35 to 90oC, with flow rate averages ranging from 11 to 162 litres/sec. The sector is undeveloped.

### **Solar**

High insolation values ranging from 3.25 and 6.0 kWh/m<sup>2</sup>/day make the DRC ideally positioned to exploit this resource. Currently, there are over 800 solar systems, with a total power of 83 kW.

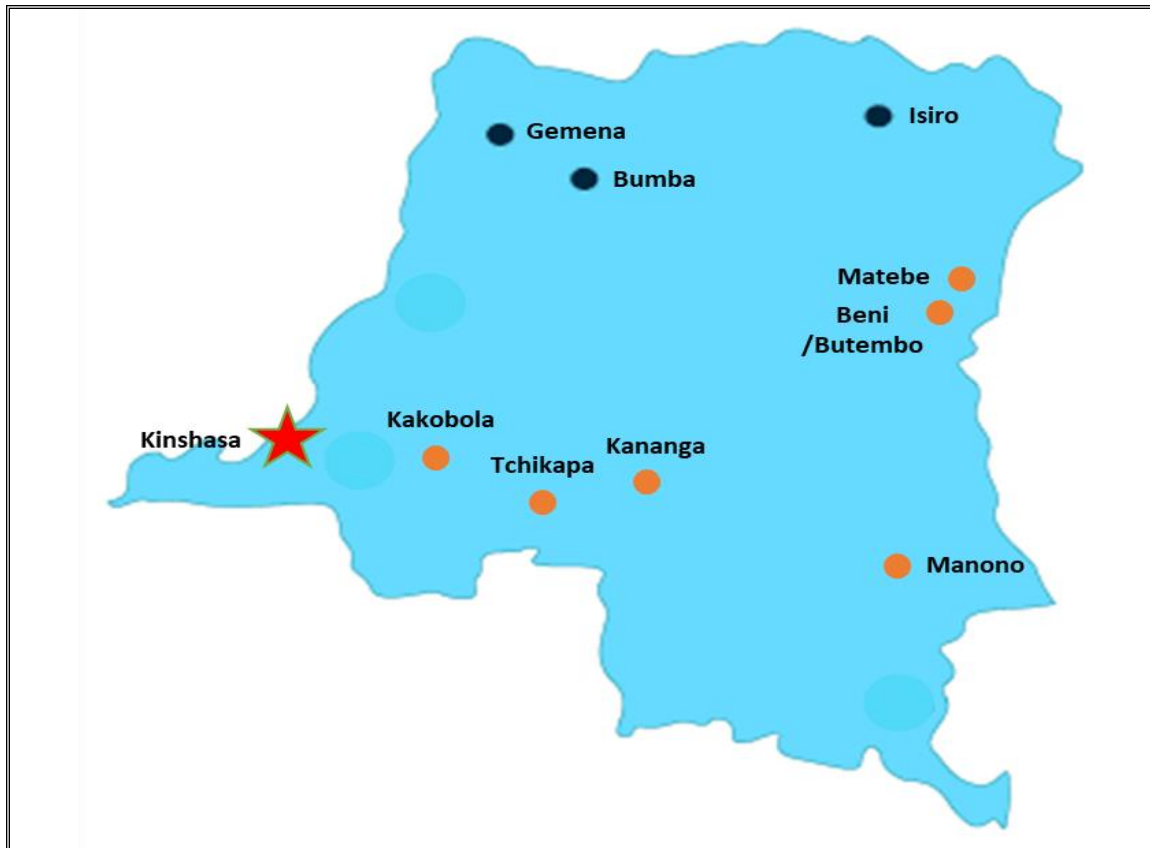
These are situated in: Equateur (167), Katanga (159), Nord-Kivu (170), the two Kasai provinces (170) and Bas-Congo (170). The Caritas network system has 148 installations with a total capacity of 6.31 kW.

### Mini-Grid Baseline

With a very limited national grid covering only a fraction of the country and the various logistic issues related to fuel supply, the development of “green mini-grids”, especially solar-based ones, represents an efficient way to improve access to electricity in the DRC in the short-to-medium term. Through the use of available renewable energy resources, green mini-grids fit very well with the specific needs in the DRC for improving access to energy to a large number of its people independently from the national grid. Following the liberalization of the electricity sector, a few initiatives, mostly driven by the local private sector, have already been undertaken leading to the successful implementation of a couple of green mini-grids, though not in a coordinated way. A few private operators have started to develop mini-grids across the country, using mostly hybrid-technology combining hydro or solar power plants with diesel generators (Table 1).

**Table 1: Examples of mini-grid projects in the DRC**

AREA	TECHNOLOGY	SIZE	OPERATOR	FINANCING
Tchikapa	Hydro	1.5 MW	STS	
Kananga	Solar-diesel hybrid	2.5 MW	PPP consortium	USD 2.4 million equity USD 3.4 million loan from provincial government
Matebe	Hydro	13.8 MW	Virunga Sarl	USD 20 million Howard Warren Buffett Foundation USD 9 million loan from CDC
Beni Butembo	Hydro	12 MW	STS	Loans from DFIs (proposed)
Manono	Solar	1 MW	Enerdeal	
Kakobola	Hydro	9.3 MW	Government	USD 76.5 million loan from India's EXIM Bank



**Figure 2: Location of some of the mini-grids in the DRC (orange circles)**

### **Climate change context:**

Climate change in the DRC is evident from the records. Temperature has been increased by 0.25°C every decade in its warmest day and is projected to increase by 2.7-3.2°C by 2100 as compared to the 1990 baseline. Rainfall in DRC has been significantly decreased while the frequency of intense rainfall events increased. During the dry season in 2017, water levels in the Congo River were at their lowest point in more than a century.

The DRC is one the most vulnerable countries to climate change in the world. The country is ranked at 170th out of 181 countries according to the 2016 ND-GAIN Country Index for vulnerability to climate change. While the DRC's climate vulnerability is multifaceted, the impact for the power sector is expected to be severe. As the DRC's electricity generation largely relies on hydroelectric power (over 95% of the total generation), the country will face power shortage by droughts caused by reduced rainfalls. Unreliable power supply will hurt the industrial activities and livelihoods of people. In addition, climate impact for the forest, ecosystem and natural resource is going to be significant as the DRC is a host to the second largest tropical moist forests



in the world, with forested area covering about 67.3% of the country. The country sits on low lying central plains through which the Congo River flows, surrounded by mountainous terraces in the west, savannas in the southwest and dense grasslands in the north. Further, changes in rainfall and temperature are likely to develop disease pathways, rendering the country more susceptible to vector- and water-borne diseases.

The DRC's Nationally Determined Contributions (NDC) indicates climate change as one of the major threats to sustainable development in the country. The GoDRC is conditionally committed to reduce its greenhouse gas (GHG) emissions by 17% by 2030 compared to a business-as-usual (BAU) scenario (which is estimated at 430 Mt CO<sub>2</sub>eq), avoiding over 70 Mt CO<sub>2</sub>eq per year of emissions. Although, GHG emissions (Metric tons of CO<sub>2</sub>e) per capita of DRC has decreased from 0.98 in 1990 to 0.55 in 2013 due to lack of infrastructure development while population doubled, the GoDRC targeted to contribute to reduce 17% by 2030 of its BAU scenario. Because of the low electrification rate, the DRC has relatively small potential for GHG emission reduction. Renewable energy development including hydropower is identified as a key sector for mitigation with its potential emission reduction of 9.65 Mt CO<sub>2</sub>eq by 2030. The total cost required to reach a mitigation goal is estimated at USD 12.54 billion.

The DRC mini-grid program is consistent with the objectives of the Nationally Determined Contribution (NDC) and development plans of the DRC. The DRC is committed to avoid near 10 Mt CO<sub>2</sub>eq per year GHG emissions by 2030 through the deployment of renewable energy. In order to achieve the target, the central and provincial government of DRC are supporting strategic reforms in the power sector that includes liberalization, increased transparency, and the attraction of a greater number of national and international private and public partners.

The proposed program will finance three hybrid solar PV mini-grid power plants of around 5 to 10 MW each with battery storage of 15 MWh and back up diesel generation. The project is estimated to avoid 560,000 t CO<sub>2</sub>eq over a 20 years operation lifespan. The project emissions reduction will directly contribute to attain the DRC's commitment outlined in its Nationally Determined Contribution (NDC) to reduce emissions by 70 Mt CO<sub>2</sub>eq/year by 2030 as compared to the BAU (430 Mt CO<sub>2</sub>eq) with appropriate international assistance. Its replication to other towns in the DRC will provide further contribution to the NDC emissions reduction objectives of the country.

## **Baseline Environmental Characteristics of the proposed project areas**

### **Sites Selection**

The sites were selected following an initial desktop screening of potential pilot sites conducted during the preliminary phase of the Essor A2E initiative. Initially there were twenty-seven towns throughout the DRC which could serve as potential sites for the pilot projects. This shortlist was further whittled down to six, based on the following discriminating factors: the security situation of the area; if the SNEL was known to already be active; the level of solar irradiance; the economic activity, and; logistical issues affecting access to the site.

Preliminary site visits were organised in six shortlisted towns to assess each potential site along the following criteria:

**Table 2: Criteria for selection of potential towns for the project**

<b>Population</b>	A population of at least 80,000, so as to reach a critical mass. The greater the population the better, although beyond around 300,000 inhabitants, it was thought the project may become too complicated to handle for a pilot project and should therefore be avoided.
<b>Economic potential</b>	The presence of several SMEs and the potential that the electrification of the town would boost the economy and revive dormant economic activities is a fundamental criteria.
<b>Security</b>	A security situation that would allow the carrying out of the pre-feasibility studies, and ultimately not dissuade private investors to develop and operate infrastructure projects
<b>Logistics and connectivity</b>	The ease with which a developer could bring personnel and materials for the construction and operation of the site was taken into consideration
<b>Presence of industrial activity</b>	In almost all cases the biggest consumer of electricity would initially be the State-owned water agency REGIDESO (though expectations are that industrial activity would kick-start once a reliable and affordable source of electricity is made available
<b>Strong levels of irradiance</b>	The results of a study on solar irradiance for each site suggest that, all sites benefit from good levels of solar irradiance that make solar mini-grid projects feasible.
<b>Presence of the financial sector</b>	The presence of one or more private banks or microfinance institutions, and access for consumers to financial products at rates that would make them able to finance the access to electricity services or develop their

	businesses with electrical devices in the event of electrification would be a beneficial aspect
<b>Existing activity of the SNEL</b>	The reality of the ground is that SNEL is present in almost every town in the country even if their generation capacity is non-existent. As the project would not look to build on any existing network and would be a greenfield project, the ease with which the town would be relinquished by the SNEL was considered instead. However, the presence of another similar project under development by a private developer was considered an exclusion criteria
<b>Estimated willingness to pay</b>	While it was not possible to determine willingness-to-pay in a quantitative manner during the site visits, discussions with the providers of electricity and water services shed light on the ability of households, businesses and of public instances to pay their bills.

Following the visits of shortlisted sites, three towns were retained based on the above mentioned criteria. These were **Bumba**, **Isiro** and **Gemena**.

### **Socio-economic baseline of the three selected Towns**

#### **Bumba Town**

Bumba is the capital of the territory of the same name, within the Mongala Province, of which Lisala is the Provincial capital. Despite not being the provincial capital, Bumba is the largest urban centre in the province. The Province originated during the implementation of the new constitution of 2006, where the Mongala district of the then Equateur province, became its own province. The area of the territory of Bumba is of 15,598 Km<sup>2</sup> and has a population of around at 140,000.

Bumba is an important trading center that has a port, an airfield and is the starting point of the old railway line to Isiro called Uélés Railway. Located about ten days by boat from Kinshasa, Bumba was, before the first Congo war, one of the most important sources of rice, cassava and palm oil for Kinshasa.

Despite lacking any electricity grid, the town of Bumba shows the greatest dynamism of the three pilot project towns. It is an important agribusiness sector and has the only industrial anchor off-taker (the SOCAM-NT group) of the three pilot project towns. With the potential to catalyse its local agribusiness, and for other industries to make the most of its strategic position on the river, the town stands to benefit enormously from an electrification project.

## **Climate**

The average annual amount of solar irradiance is of 5.23 Kwh / m<sup>2</sup> / day. It should be noted that the amount of sunshine is lower during dry season due to the presence of a thicker layer of clouds (made of dust particles mostly). With a tropical climate on the equator, the climate of the area is characterized by:

- An average annual temperature above 18°C;
- Heavy rainfall;
- No winter season.

Currently the city of Bumba has a meteorological station, at the Parish Notre-Dame. The climate of the region is characterized by generally abundant rainfall all year long, between 1,300 and 1,800 mm of rainfall per year.

The town of Bumba experiences two dry seasons, which show significant drops in precipitation. The first period lasts between two and three months, as of early December. The second period is shorter, lasting about one month and starting around the month of June.

The average annual temperature is 25 ° C, with little variability in temperatures throughout the year. The dry seasons are relatively cool. There is, however, a marked increase in temperatures during the rainy months where the temperature can reach up to 35 ° C.

## **Economy**

The territory of Bumba is essentially an agricultural area. In addition to agriculture, there is a relatively important amount of fishing in the town given its position right on the banks of the Congo River. The economy of Bumba has always been geared towards agribusiness. To the extent that it was once considered one of the main breadbaskets of the country, with the breweries of Kinshasa and Kisangani sourcing their rice from the town. The economic situation declined sharply following the unrest in the country in the 1990s, with all of the major plantations suffering from the ravages of war and the subsequent looting. Today, the town is now experiencing an economic recovery. Albeit it has yet to reach the levels of productivity it once knew in the 1980s.

Today, agricultural activity is dominated by the production of rice, after which cassava, maize, peanuts, coffee and palm. Within this sector, the two most important industrial actors in the area are SOCAM-NT, and the PHC group (of Ferronia).

SOCAM-NT, (Agro-Industrial Commercial Company of Mongala - New Team) employs some 250 people and is located right in the town centre, near the port. Its activities are the processing of rice and the production of soap with its own factory. PHC (of the Ferronia group), which is an abbreviation of Plantations and Oil Mill of Congo,

In addition to these industrial activities in the town and its vicinity, there are: some general stores; pharmacies; cutting and sewing workshops; dry cleaners; hotels, sawmills, rice and cassava mills. The town also has a large market, with two smaller secondary markets, 69 primary and secondary schools, a general hospital and sixteen health centres.

A large number of trades and artisans are not included in any list and participate in the local economy whether in the agricultural sector, processing, restoration, crafts, service, computer, construction, any work, energy supply, small business. As in many cities of the country, a significant part of the population of Bumba lives more or less permanently in the informal sector. It is always difficult to quantify this economy

### **Power infrastructure and Utilities**

The SNEL in Bumba once had a diesel generator and a distribution network which once supplied around a hundred subscribers including the Régideso and public buildings. These facilities have not worked for more than 10 years, and today their equipment is in a state of disrepair. With this scenario, the biggest industry in the city: SOCAM-NT operates autonomously thanks to three diesel groups (600 KVA, 500 KVA, 400 KVA) to meet their own needs and which never operate simultaneously. Also, these are individuals or small traders who once having acquired a generator for their own needs, sell their excess electricity within their local neighbourhood. The local authorities have details for sixty-eight documented independent power producers, although it is likely given the dynamism of the town that there are likely many more.

### **Security risk assessment**

The security assessment of Bumba found the risk level to operate in the town an acceptable one. The assessment indicates that the predominant crime risks in Bumba is petty theft, but violent crimes such as carjacking and armed robbery do occur and most commonly targets vehicles travelling on roads on the outskirts of the city. Inner-city security provision is low and there is a limited police presence.

### **Logistical considerations**

Bumba is located on the right bank of the Congo River that connects it to Lisala in the West, and Basoko in the East, and is 1,100 km by plane from the capital Kinshasa. Its average altitude is 360m above sea level.

The town has an airport with a dirt runway that is maintained in good condition. This airport connects the city to Kinshasa via Lisala or Kisangani. Its runway is however limited to a maximum tonnage of 40 tonnes, meaning only small-to-medium sized propeller planes can land on it. Today, commercial flights are operated by Air Kasai, in addition to the chartered flights that fly to the destination.

The city is accessible from Kinshasa by the Congo River via Mbandaka (Equateur Province). The journey time between Kinshasa and Bumba (when the water levels are higher) lasts approximately two weeks (with another two days to reach Kisangani).

## **Gemena Town**

Gemena is the Provincial Capital of the Sud-Ubangi Province which gets its name, along with the Nord Ubangi Province, from the Ubangi River which runs across the border with the Central African Republic. The town has an estimated population of around 164,000 people. Its administrative position dates from 1906 when the District of Bangala was created by decree by the then Colonial Governor. At the time Lisala<sup>5</sup> was the District Capital, and the District incorporated today's provinces of Mongala, Nord Ubangi and Sud Ubangi.

In 1972, the Ubangi District was divided into two new separate districts: Nord Ubangi, of which the district capital was Mobay-Mbongo, and Sud Ubangi, of which the provincial capital was Gemena. These districts were part of the Equateur province of which the provincial capital was Mbandaka. Today, following the new Constitution of February 2006 and its subsequent implementation on July 11, 2015, the Equateur Province was split into four provinces<sup>6</sup> with Gemena reverting back to its position as the Provincial capital of the Sud-Ubangi Province. Covering an area of some 51,896 km<sup>2</sup>, the province of Sud Ubangi has a population of around 3.2 million inhabitants with an average density of 64 hab / km<sup>2</sup>. This is almost double the national average.

The town have a history of agricultural plantations development (coffee plantations in the early 1970's), cotton (in the 1970's and 1980's) and agro-processing (soap production from palm plantations by The COMINGEM Group. While the town once benefitted from these agribusiness activities, these have since fall into abandon over the recent decade including the COMINGEM plant which today looks for financing to reinvigorate its factory. The activities that remain are for the most part artisanal with several small sawmills and agriculture processing activities in the town. The town today is mostly geared towards trade, but benefits from recently rehabilitated road networks in its vicinity.

As is the case in many a town in the DRC, a large number of traders and artisans are not registered in any official documentation or statistics and so operate in the informal economy. These

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<sup>5</sup> The Provincial Capital of the Mongala Province today.

<sup>6</sup> Equateur, Mongala, Sud Ubangi, Nord Ubangi

businesses are primarily in the agricultural sector, processing, restoration, crafts, service, computer, construction, energy supply, and other services. It is suspected that the overwhelming majority of economic activity in the town of Gemena is within the informal sector.

An electrification project would serve as a catalyst for the local economy to capitalise on trade (e.g. vehicle repairs). The largest impact would be felt if agribusinesses were to capitalise on the affordable electricity and relative ease to transport produce out of Gemena, and to restart productions similar to those of COMINGEM, or for the COMINGEM itself to use this as an opportunity to secure financing to redevelop its activities.

### **Climate**

The town does not benefit from a weather station, and so developing a profile on the climate in the town was done using desk research. Gemena benefits from an annual solar irradiance of 5.21 kWh/m<sup>2</sup>/year.<sup>7</sup> Because of its location in an area where the dry season is short this means that the solar potential is good throughout most of the year, as the level of dust during the dry season reduces the amount of sunlight that hits the solar panels.

The average temperature over one year in Gemena ranges from 24°C in July, to 26°C in February.<sup>8</sup> The dry season lasts three-to-four months, from December to March, and the rainy season lasts eight-to-nine months and sees some 100-to-250 mm of rainfall per month. During the rainy season the rain often comes down in weather storms or otherwise strong rains every two-to-three days. Over the course of one year, on average some 1,500 to 1,800 mm of rain fall over 114 days.

### **Infrastructure and utilities**

The public electricity supply was once provided by the SNEL which had a thermal power station of 5 diesel generators. This had a cumulative installed capacity of 1,990 KW, but only three of are today still functional (3 x 500 KVA). Their inventory once consisted of a 16 km medium-voltage 6.6KV network, a 35km low-voltage 400 V network, 180 public lighting stands, and 2,242 subscribers. When it has fuel, SNEL can in theory operate four hours a day, three-to-four times a week, but now only covers 5% of the city of Gemena. That said, since April 2017 the SNEL has been out of operation. Given its inaction, no business is today connected to SNEL.

As in the other pilot sites of the study, SNEL's lack of activity is offset by the presence of independent electricity generators and distributors, who use small generators of 10 to 20 kVA. Each of the self-producers serves around 20 private customers and applies flat rates according to

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<sup>7</sup>Source : <http://globalsolaratlas.info/>.

<sup>8</sup>Source: <https://fr.climate-data.org/location/3124/>

the final use. Today it is estimated that there are some fifteen independent producers in Gemena, accounting for a total of approximately 290 kVA.

The population of Gemena draws water mainly from various water fountains across the city, provided by five different water networks. Four of these were established by the NGO World Vision, and one by the REGIDESO who also provide direct connections to the homes of a small number of consumers.

The REGIDESO network currently covers around 50% of the city. The raw water is pumped through a single borehole that delivers 40m<sup>3</sup>/h. The water undergoes a simple chlorination prior to storage and distribution. The network is currently equipped with 40 private connections and 32 standpipes. Five of these standpipes have been closed as they are not profitable due to their proximity to the fountains of a World Vision network that sells cheaper water. There are ongoing works on the network that are financed by KfW, which have for objective to allow REGIDESO to cover the entire city.

However, it should be noted that the REGIDESO system will still have a low storage capacity even with its ongoing developments. If REGIDESO is to benefit from solar energy, pumping during the hours when there is sunlight will not be enough to account for the lack of storage capacity and an additional water tower will be needed to meet the storage needs of the system.

### **Security risk assessment**

There have been no reports of the presence of armed groups or serious violence ever since the killing of a Police officer in 2016 over an arrest. Though "close" to CAR (250 km from the border), violence from CAR has not filtered down to the DRC and should pose no threat.

Petty and violent crime rates are high nationwide. The predominant crime risk in Gemena is petty theft, but violent crimes such as carjacking and armed robbery do occur and most commonly targets vehicles travelling on roads on the outskirts of the city.

### **Logistical considerations**

The town sees strong levels of trade of goods, people and finances as these transfers through the town on the way to Zongo or Mogalo. The town is also relatively easy to access with flights (including freight) covering the 1,300km from Kinshasa directly to Gemena or via Mbandaka. The town can also be reached by boat from Kinshasa to Akula and from there to Gemena via a relatively well-maintained road (albeit a non-asphalted road) of 115km. which can be covered in approximately an hour-and-a-half.

In addition to the road to Akula, other towns reachable from Gemena by road include:

- Lisala (over 345km of road) via the port of Akula;



- Gbadolite (over 330km) via Businga (160km away);
- Bangui (over 160km) via Zongo which can be reached in four hours;
- Dongo, on the river Ubangi (over 300km);
- The port of Mogalo (over 108km) via Bwamanda and Mbari on the river Lua.

The road network has seen a recent injection of financing from the World Bank in order to improve the level of infrastructure, albeit these remain dirt roads. 93km of road between Boyabo and Zongo were recently rehabilitated, 224km between Dongo, Imese and Buburu; 144km between Gemena, Karawa and Mombanza. Other roads in the region are like many dirt roads in the country susceptible to damage and require 4x4s or trucks to drive across them.

## **ISIRO TOWN**

Isiro was once the capital of the territory of Isiro, a constituting territory of the old Province Orientale. Following the restructuring of the provinces in the DRC, Isiro is the “Chef Lieu” of the newly created Haut-Uele province. As with the other new administrative centres it is a politically attractive site for an electrification project as there is a strong political will to electrify these new provincial capitals.

The town was built on the railway line of the “Chemin de Fer des Uele” (CFU) which used to link up, back when the railroads were operational, Bumba to Mungbere over a distance of some 1,100km. The railroad arrived in 1932 and helped export the coffee, cotton, palm oil or rubber produced within the region.

Previously, the town benefits from a climate that is conducive for agricultural production including mainly rubber, Robusta coffee, cacao, palm oil and cotton. In addition to this strong potential for agribusiness, the region is rich in gold, diamonds and iron of which reserves remain as of today.

The economic activities declined due to appropriation of businesses held by expatriates as part of the policy named “Zaïrinisation”. This economic recession was then further aggravated following the closure of the CFU and the several conflicts in the area through the 1990s, which saw as a result the large enterprises in Isiro shut down their operations.

The informal sector incorporates the vast majority of economic activity in the DRC, and is no different in Isiro where there is little in terms of meaningful official statistics. Workers and artisans within the informal sector primarily work in agriculture, transformation, restauration, as artisans, in the services sector, IT, construction, the supply of energy, and in other small businesses.

## **Climate**

The town of Isiro experiences a dry season that lasts three-to-four months, from November to February. The rainy season lasts some eight months, from March to October. During this season, rainfall occurs every two-to-three days, often coming down in heavy precipitations during storms. On average, between 1,800 and 2,000 mm of rainfall every year.

On average, temperatures in Isiro vary from 21 °C to 31 °C, with variance of temperature being higher during the dry season. The maximal temperature being the greatest at the start and end of the rainy season.

The town benefits from good levels of solar irradiation, with an average of approximately 5 kWh/m<sup>2</sup>/year (Error! Reference source not found.) with a variance of 2.4% year from year.

## **Infrastructure and utilities**

SNEL operates in the town using an autonomous diesel generator (given by the Presidency), and while it generates electricity from 8am to noon, from 1pm to 5pm and from 6pm to 10pm, it sells this electricity at an exorbitant rate (1.25 USD/kWh). Despite this excessive tariff, given the very high fuel costs the SNEL still operates at a loss. According to their latest accounts, the SNEL have 460 clients but of which only 287 are active, in that they pay for their electricity consumption. The SNEL was inactive for a long period of time, but started its operations again in 2015.

There were some fourteen independent electricity distributors in Isiro prior to 2015 when the SNEL resumed its operations, providing electricity to some 695 customers according the CNE. Today there are considerably fewer, which can be attributed to the SNEL resuming its business, the distribution of solar home systems, and the low service level-to-cost ratio.

Drinking water is provided by the Public-Private water utility company of the DRC, REGIDESO. They have been present in Isiro since 1954 and draw their water from the river Tely. This water being of poor quality is subject to a complete treatment process, including the removal of iron, flocculation and decanting, a pH treatment and the chlorination of the water. Once treated, this water is sent to a water tower of 250m<sup>3</sup>. The REGIDESO has some 1,600 subscribers, of which 632 are considered active, and finally the REGIDESO also supplies water through two water fountains.

## **Security risk assessment**

The Haut-Uele province has suffered from several incidents in recent decades, including Zaïrinisation, the two Congo Wars and most recently activities of armed rebel groups. As such, a security an assessment of the security situation of the town, its surrounding area, and the region

was undertaken by the programme's security experts. The following is a summary of the findings of the security assessment.

Petty and violent crime rates are high all across the DRC. In Isiro, the predominant crime risks are of petty theft, but violent crimes such as carjacking and armed robbery have occurred and most commonly targets vehicles travelling on roads on the outskirts of the city.

As such, despite the classification of the province as one of extreme risk, these pockets of elevated security risks do not impact the town of Isiro where the programme's experts have work unhindered.

Isiro is relatively remote due to the poor condition of the surrounding transport infrastructure, with the old rail road having fallen into abandon since 20 years. The dirt roads to other commercial centres including Kinsangani are also in a somewhat poor state, with road travel being problematic in certain stretches of the road during the rainy season. The most reliable means of transport to and from the town is by plane, but the number of flights is limited with only one flight from Kinshasa every week via Kisangani, and one air link per week by small carrier with Bunia.

In summary the three towns can be described as shown in the Table 3 below:

**Table 3: Key characteristics of the towns**

Aspect	Bumba	Gemena	Isiro
Solar irradiance (Global Horizontal Irradiance) (kWh/m <sup>2</sup> ) in 2018	1,742	1,794	1,789
Population	180,000	170,000	137,500
Number of shops and services	557	211	1,098
Number of public institutions	292	152	170
Security situation	Good	Very Good	Medium
Logistics and connectivity	Weak	Good	Medium

(Source: IED, Essor)

### **Actual projects sites in the three towns**

Specific sites in the three towns were further identified. The first step of this process was to ensure that the sites proposed by the local authorities for the solar parks were suitable for the envisaged solar park. This was achieved during the field work where the proposed sites were visited in order to:

- Confirm the ownership of the land in order to ensure it belonged to the public authorities;

- Approximate the area of the plot of land;
- Assess the ease of access to and from the site;
- Assess the level of occupancy to ensure there would be no need to displace any locals;
- An assessment of the soil and local vegetation as well as the dustiness of the area;
- A topographic mapping of the area;
- Identify the nearest source of water which would serve to help keep the panels and other equipment clean; and,
- Identify and record the GPS coordinates of the boundaries of the plot of land

The descriptions of the specific sites in the three towns are presented below:

### **Project proposed site at Bumba**

Unlike Isiro and Gemena, the local authorities did not have a plot of land set aside for a solar PV plant ahead of the visit of the Essor programme in the summer of 2017. Upon the return of the team in February 2018, a plot of land of some 20ha had been identified some 7km northeast of the town. It is just off the national road 6 (RN6) towards the town of Aketi.

The main means of access to Bumba from Kinshasa is by the river where containers could be unloaded directly on the river bank (as the REGIDESO project did), or by plane. Another means of access could be to transport equipment via Kisangani through the river if the containers are unloaded at the port terminal in Tanzania and transit through the eastern border. The unloading of containers from a river barge and the transport to the site is not expected to pose any significant difficulties. This is because the port infrastructure still remains (albeit inactive) and that BUMBA has several transport companies capable of transporting the containers to the site.

Access to the site itself is by an 800m path off the N6 road that for the moment can only be traversed on foot. This section of track will have to be made suitable for vehicles and likely widened in order to allow larger vehicles through.

The territorial administration clarified that the plot of land belongs to the state, and is also available for the project. This was confirmed during the site visit where no homes were seen on the plot of land. A document was produced by the territorial administration which confirms the allocation of the land for a solar PV project and of the agreement of the local tribal leaders chiefs.

The site is a wooded savannah in which one finds among others wild palm trees which are harvested by the populations and some rare plantations of cassava.

The flatness of the site has not been observed in detail, however the chosen terrain is according to the territorial authorities located in a fairly flat and non-floodable area.

The soil consists of partly clayey red soil. Some stones and small boulders are present.

No source of dust has been identified so far; however it must be noted the presence of termites on the field visited.

No surface water point is known, however there is a stream that flows a few hundred meters from the track used for accessing the site.

The site is not physically demarcated except by the path that provides access to this area.

If the project is realized on this site, it will be necessary to realize in the study phase a survey of the topographic points.

Note the area marked on the map is indicative to materialize a 20-ha right-of-way from the access road. This only corresponds to a convention on the position of the future parcel in relation to the path but in no case to a delimitation agreement.

### **The project proposed site in Gemena Town**

Because of the interest in the past of an energy promoter to establish a solar field, the Provincial Government has already identified a site of some 30.2ha and 4.5km away from the town centre, which they could provide as part of a concession agreement.

The site is located to the south of the town of Gemena and is accessible via the national road 6 (N6). This road leads directly to the port of Akula which links the area to Kinshasa. This direct access is fortuitous in that it means that the project developer will not need to traverse through Gemena during the construction phase, with only approximately 500m of track to build to connect the road to the site.

During the visit a provisional demarcation was carried out by the cadastre services in the presence of the local customary chief. This demarcation was intended to delimit a 30-hectare site reserved for the Ministry of Energy in order to establish the hybrid production plant. A report of measurement and delimitation and a report of inventory of fixtures were also established.

Currently the site is partially cleared by burning with some spaces currently used by local inhabitants to grow crops like cassava, pineapple, banana, and corn. Some farmers have built up temporary accommodation on the boundaries of the site, with no homes on the site itself. Apart from the few cultivation areas, the site is mostly taken up by scrub and shrubs, with the occasional tree.

The site is in an area with a gentle slope leading towards the nearby river and is not considered susceptible to flooding. There were some mounds of land of about 5m high which of which the origin was unknown (i.e. if they were naturally formed, made by termites, etc).

The soil is sandy red soil that seems well suited to the metal foundations for the solar panels. No stones or boulders were seen during the visit of the site. Finally, while the soil will undoubtedly result in dust particles obscuring the PV cells which will thus need cleaning, the dust of the national road like the N6 is unlikely to pose an issue given the 350m between it and the site.

The local authorities confirmed that the land is owned by the state, and is not currently being rented. The planning documentation was formally produced (**shown in Figure 3**) below which maps out the dimensions of the field and sets it aside for the Ministry of Energy and Hydraulic Resources in order to develop a solar PV project. This document is enforced through the signature of the Governor of the Sud-Ubangi Province.

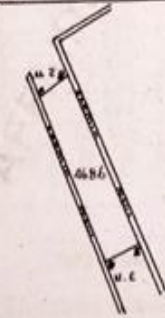
Ministère des Affaires Foncières  
N° 134565

**PROCÈS-VERBAL DE MESURAGE ET DE BORNAGE**  
OFFICIEL N°

Nous André YAKENKA JEANNE SEZE Géomètre du Cadastre (1)  
géomètre agréé, assermenté en cette qualité, le  
par le tribunal de première instance sis à  
certifions avoir procédé l'an deux mille dix-huit le treize et jour du mois de février  
au X TRAVAIL de  
mesurage et au bornage de la parcelle décrite ci-après à la demande de  
Monsieur le Chef de Division du Cadastre du Sud Ubangi/Gemena

Province : <u>Au Sud Ubangi</u>	Parcelle cadastrée sous le numéro : <u>4686</u>
District : <u>Gemena</u>	Superficie (2) : <u>30 Ha 45 a 22 Ca 00</u>
Ville : <u>Gemena</u>	Conte Rectares Quinze Ares
Localité : <u>SOKUDA</u>	Vingt-deux Centi-ares
Commune : <u>SOKUDA</u>	
Lieu dit : <u></u>	

Croquis Orienté de la parcelle, des constructions et des servitudes éventuelles.  
Indications de tenants et aboutissants.



Echelle : 1/20.000

Bornage :	Sommets	Longueur	Angles
Nous avons placé des bornes réglementaires moyennes de dimensions	A	105.77m	104°55'
aux sommets marqués	B	1054.09m	95°21'
des bornes réglementaires moyennes de dimensions	C	303.85m	95°35'
existants aux sommets marqués	D	1009.03m	104°77'
	A	3678.74m	100°00'

Ennumération des constructions avec référence croquis : Absent  
Instruments employés pour le mesurage : S.P.S MAP GAZ N 75  
Dressé en triple à GEMENA, le 13 / 02 / 2018  
le géomètre du Cadastre (1), le géomètre agréé

Accord du propriétaire :   
N.B. : Aucun gratage ni surcharge ne peut être fait sur le procès-verbal.  
Les erreurs doivent être rectifiées par des annotations datées et signées par le géomètre.

REPUBLIQUE DEMOCRATIQUE DU CONGO  
MINISTÈRE DES AFFAIRES FONCIÈRES  
PROVINCE DE L'EQUATEUR  
DISTRICT DU SUD UBANGI  
GEMENA  
DIVISION DU CADASTRE

**PROCÈS-VERBAL DE CONSTAT DES LIEUX N° 610.2018**

L'an deux mille dix-huit le 13 jour de Mars de l'année  
Je soussigné Pablo YAKENKA Géomètre ou Arpenteur du Cadastre/Sud Ubangi  
déclare m'être rendu sur la parcelle n° 4686 du plan cadastral dans la  
Commune de Gemena Quartier SOKUDA sollicitée par  
Monsieur le Chef de Division du Cadastre Suivant Demande de Terre  
du 13 / 2018

J'assiste sur l'honneur et avoir constaté ce qui suit :

1. Etat de terrain : Absent
2. Etat de terrain : Absent
3. Traces de travaux préparatoires effectués et leur importance :
  - Absent : foudres ou branches
  - Absent : déblais ou remblais
  - Absent : drainage égo
  - Absent : terrassements
  - Absent : empiétement
  - Absent : chemin d'accès
4. Raccordement d'eau et électricité : Absent
5. Clôture : Absent
6. Dépot de matériaux : Absent
7. Cabane de chantier : Absent
8. Construction nature : Absent
9. Emplacement : Absent
10. Dimension : Absent
11. Niveau : Absent
12. Degré d'achèvement : Absent
13. Matériaux utilisés : Absent
14. Plantation : gazon à Arbustes et arbres : Absent
15. Autres observations : La Parcelle est sollicitée par le Ministère de l'Énergie suivant leur demande adressée à la Hiérarchie pour l'Octroi des Documents y Afférents.

En foi de quoi, le procès-verbal des lieux a été établi au jour, mois et an que dessus.  
Dressé en 2 exemplaires à M. le C.T. Gemena, le 13 / 02 / 2018

**CHIEF DE DIVISION URBAINE DU CADASTRE**  
YAKENKA JEANNE SEZE

**GÉOMÈTRE OU ARPENDEUR DU CADASTRE**  
Pablo YAKENKA NABU

Figure 3: Planning documentation for the Gemena Site

## Project Proposed sites in Isiro Town

Three sites were proposed by the Provincial Government and visited by the Essor experts. All three sites were suitable for a project, but each has their advantages and drawbacks (Table 4). Based on the pros and cons, Site 3 is recommended as the best site on which to build a solar park.

Site 3, which is a government-owned ground, is estimated at around 41 hectares in area, is to the west of the town of Isiro on the North side of the N25 road, 1km from the town limits and 3.5km from the town centre (the office the Provincial Governor). From Kinshasa, the means of access would be by river up to Kisangani and then a day's drive over 570km of road to Isiro, through the town and then to the site to the west.

The area slopes very gently north towards the nearby lake and because of its position is not considered as being susceptible to flooding. The area, once the site of a plantation but today, it has been razed with some small sections being used to grow crops such as cassava. Outside of these small sections, the site is dominated by grassland, bushes and a few scattered trees. A few people have built mud huts on the border of the road by the site.

The ground is mostly constituted of a red clay earth, there are some stones and blocks that could be easily removed. All in all, the ground is suitable to dig in and install metal support poles for the installation. The area is however relatively dusty due to the proximity to the road. This could dirty the solar panels, which means that they will require regular cleaning. It is suspected that a well could easily be dug on site in order to draw water for this purpose. In addition to this, the many bushfires in the local area could influence the performance of the panels.

**Table 4: Comparison of the three visited sites, with drawbacks highlighted in blue**

	Site 1, "N25"	Site 2, "TayiMalikuti"	Site 3, "Ouest"
Approximate surface area (ha)	11	45	41
Distance from town centre (km)	6	6.5	3.5
Ease of access	On the N25 road	N25 road 2 km of dirt road	Requires passage through Isiro
Ground quality	Earth	Rocky undersoil	Earth
Current usage	Some crops being grown	Cleared ground	Some crops and a few houses in nearby area



## **DRC Land use and Tenure**

### **Land use**

The DRC is the third-largest country in Africa (after Sudan and Algeria) and has a total land area of 2,267,000 square kilometers. Ten percent of the DRC's total land area is classified as agricultural land; 3% is arable, and only 0.1% of cropped land is irrigated. Much of the most fertile agricultural land is found in the plateaus in the Katanga region in the south eastern section of the country. Sixty-one percent of the population is engaged in agriculture, which, due to the destruction and deterioration of market infrastructure during the war years, has become primarily focused on smallholder subsistence farming. Fifty-nine percent of the DRC's total land area is forested, and 8.6% of total land area is designated as nationally protected areas. More than half of the larger Congo Basin forest area is located in the DRC. As the second-largest expanse of tropical forest in the world (after the Amazon Basin), the Congo Basin is a global as well as national resource.

The estimated annual rate of deforestation is 0.2-0.3%, with 400,000-500,000 hectares of closed forest lost per year.

### **Land distribution**

During colonial times, only Europeans were permitted to own land on a private basis; all other land was governed by traditional rulers as communal land subject to customary law. The vast majority of Congolese lived in rural areas and received land allocations from traditional authorities. Over time, land allocations became increasingly individualized, and informal land transactions became common in some areas. During President Mobutu's post-Independence reign (1965–1997), all land in the DRC was officially nationalized, but the system of customary land tenure continued to operate parallel to the formal system. In urban areas, some plots are held under formal, long-term concessions granted by the state, but others (particularly plots in informal settlements) are obtained by squatting or through informal market transactions. In rural areas, large commercial operations are usually concessions granted by the state under formal law, but small holdings and village and communal lands tend to be governed by customary law.

### **Legal framework**

The 2005 DRC Constitution provides that the country's natural resources are for the enjoyment of all Congolese people, and that the state is responsible for ensuring that these resources are distributed equally. The government has the authority to grant concessions to land and other resources as authorized by law.

The 1973 General Property Law (Law No. 73-021), as amended, provides for state ownership of all land, subject to rights of use granted under state concessions. The law permits customary law to govern use-rights to unallocated land in rural areas.

Despite the nationalization of all land and the introduction of formal legislation governing land use rights, as a practical matter, a significant percentage of the land in the DRC (some estimate as much as 97%) remains subject to customary law.

Traditional authorities such as chiefs continue to administer land on behalf of local communities in many areas, often in alliance with government officials. As rights have evolved and populations shifted over time, multiple layers of rights over specific areas of land and forest are common. Bantu agricultural communities recognize customary access rights to fixed territories that extend 5-10 kilometers from villages. Rights of access to other natural resources, such as game and fish, may extend further.

### **Tenure types**

Under formal law, the state owns all the land in the DRC; people and entities desiring use-rights to land can apply for concessions in perpetuity or standard concessions. Concessions in perpetuity (concessions perpétuelles) are available only to Congolese nationals and are transferable and inheritable by Congolese nationals. The state can terminate concessions in perpetuity through expropriation. The state can grant standard concessions (concessions ordinaires) to any natural person or legal entity, whether of Congolese or foreign nationality. Standard concessions are granted for specific time periods, usually up to 25 years with the possibility of renewal. Renewal is usually guaranteed so long as the land is developed and used in accordance with the terms of the concession (Musafiri 2008).

Although the formal law applies to all land in the DRC, as a practical matter, application of the DRC's formal law relating to concessions tends to be restricted to urban areas and large holdings of productive land in rural areas. In most rural areas, customary law governs. Under customary law, groups and clans hold land collectively, and traditional leaders allocate use rights to parcels. Rural land used for agricultural and residential purposes has become highly individualized in some areas over the years. Community members have the authority to loan, lease for cash, or sharecrop their individualized plots of communal land, but in most areas they cannot sell or permanently alienate the communal land to people outside the community. As areas have become commercialized, the prohibition against the sale of land to outsiders has relaxed (GODRC Constitution 2005; Musafiri 2008; Leisz 1998; Vlassenroot and Huggins 2005).

### **Land administration and institutions**

The Ministry of Land Affairs has overall responsibility for the country's urban and rural land and land administration. Within the ministry, various departments are assigned to handle registration, surveys, management of state land concessions (including allocation of

concessions), and provide a land-dispute service. The extent to which the Ministry of Land Affairs and its various departments are functioning is unknown.

The Ministry of Agriculture is responsible for the functioning of the agricultural sector and provision of agricultural services. The ministry's priorities are to: revitalize the sector through strengthening of capacity within the ministry and sector; rehabilitate basic infrastructure; support commercialization and productive investment; protect environmental resources; and promote development and strengthening of rural organizations.

### **Land markets and investments**

Despite the DRC's large land mass and relatively low population density, accessible agricultural land and land in areas near urban markets is increasingly scarce. The formal law provides extensive procedures for obtaining concessions, beginning with an application to the provincial governor. The governor authorizes the district commissioner to arrange for a land survey that involves visual inspection, local interviews, and a determination of existing uses. When the survey is complete, the application is sent to the governor who forwards it to the Minister. Final approval is granted by officials at district, provincial, or central levels based on the amount of land involved. It is unknown how often the process is followed and the extent to which concessions are freely transferable.

Under customary law applicable in most parts of the DRC, land may be leased to third parties for cash or a share of the production, but sales of land are generally prohibited. In some areas, however, especially rural areas in eastern provinces and urban areas, an informal land sale market exists. Traditional authorities have sold rights to communal land to rural elites and commercial interests, and rights to urban plots are sold informally. Banyarwanda immigrants from Rwanda who were denied land by tribal authorities purchased land from local government administrators.

### **Compulsory acquisition of private property rights by government**

Under the Constitution and the DRC's 1977 Expropriation Law (Law No. 77-001), the state owns all land in the DRC and can expropriate land under concession and held by local communities as it deems necessary for public use or in the public interest, subject to payment of compensation. The expropriation process begins with a survey and valuation, followed by issuance of an order signed by the Minister of Land Affairs or a presidential decree (for expropriation of entire zones) identifying the land for expropriation and notifying the concession-holder. Concession-holders have one month to submit any objections and make a specific request for payment of compensation. If the parties do not agree on the amount of compensation, the law provides that, the court will make the determination (GODRC Constitution 2005; Vlassenroot and Huggins 2005; Musafiri 2008).

The state has used its power of expropriation to evict indigenous communities from forestland, such as in the case of the removal of 3,000-6,000 Batwa families from the Kahuzi-Biega forest in the 1970s. The expropriation took place without notice and without payment of compensation to the families who lost their land. The current frequency and nature of government land expropriations, and the extent to which the government abides by the legislated procedures, is unknown (Musafiri 2008).

## **Socio-economic baseline**

### **Economic situation and poverty in DRC**

The Democratic Republic of Congo (DRC) is the second biggest and fourth most populated country in Africa, which spreads over 2,345,441km<sup>2</sup> with a population of 78.7 million. At the same time the DRC is a least developed country (LDC) and one of the poorest countries in the world with its GNI per capita standing at USD 460 (in 2016, current US dollar). The country's economy heavily relies on the extractive industry particularly copper and cobalt which account for 80% of the country's export revenue. The DRC is widely considered to be the richest country in the world in terms of natural resources, with large reserves of copper, cobalt, natural gas, iron ore, platinum, diamonds, gold and uranium. Growth in the extractive sector has driven the overall economic growth for the past few years, as demonstrated by the high average GDP growth rate between 2010 and 2015 (7.7%). However in 2016, the DRC's annual economic growth plummeted to 2.4%, its lowest point since 2001, as a combined result of shrinking global demand for raw materials and their declining prices. Economic development has been further hampered by political tension and uncertainty. Boosted by increasing commodity prices and good performance of mining and manufacturing industries, the growth is on a recovery track since 2017 and this is projected to continue this year. Despite a moderate economy recovery, the inflation rate is still very high, reaching 25% at the beginning of 2018.

The economic slowdown has had a direct impact on the level of public finance available. Government revenues, excluding grants, dropped from 13.6% of GDP in 2015 to 8.14% in 2017. Decreased government revenues subsequently caused a decline in government expenditure, from 15.8% of GDP in 2015 to 10.8% in 2017. The government had to sharply reduce public expenditure to contain the deficit and limit monetary financing by the Central Bank of the Congo. Public consumption and investment have been inactive due to tight government spending. The DRC's economic and social development still ranks among the worst in the world plagued by highest rates of extreme poverty. According to the most recent Human Development Index, the country is ranked at 178th out of 188 countries and it is estimated that over 77% of Congolese live on less than USD 1.9 per day.

Poverty rates in DRC are very high: in 2012, an estimated 63.6% of the population was living below the national poverty line. According to the Government, 70% of the poor are unemployed or underemployed; the vast majority of the working population is employed in agricultural activities, with low wages and high income insecurity. Wages in rural areas are considerably lower than in urban areas, and women also earn on average less than half of the earnings of their male counterparts (15,000 versus 38,000 Congolese francs).<sup>13</sup> The Government set the minimum wage at 1,680 Congolese francs per day (equivalent to US \$1.81) in 2009.

Unemployment is a big problem in DRC, particularly in urban areas. The unemployment rate is estimated at 18.5% in urban areas, including people who have given up their job search given the lack of opportunities in the labour market. Youth unemployment is also worryingly high at 38% for those aged 15-24 in urban areas.

### **Vulnerability in DRC**

The major factors and trends that contribute to vulnerability and potentially reduce sustainability of livelihoods in DRC include Environmental related vulnerability often defined by relatively exposure to environmental and climatic stresses (resulting from both naturally and human driven factors e.g. climate variability, floods, drought, epidemics, extreme weather conditions, environmental degradation) and Social related vulnerability (caused by relatively social position of a specific group in the community resulted individual characteristics/assets and inadequate access to resources and social services). Environmental problems lower the value of and access to productive resources, which increases vulnerability and complicates economic development and the fight against poverty. It also constitutes serious health problems.

Sensitivity to stresses at finer scales—community, household or individual—depends on additional factors such as proximity and access to resources, individual characteristics and assets. Thus some people are more vulnerable than others, depending on their status and ability to cope when a shock or stress occurs.

While identifying some groups as more vulnerable than others is a great generalization, it can still be an important tool for targeting development aid to key groups. However, it must be remembered that the vulnerability of individuals and households differs over both space and time and that local conditions need to be taken into account. Vulnerability varies among subgroups and areas within DRC based on their exposure and coping capacities. Targeting vulnerability reduction to meet the specific needs of the most vulnerable can limit the most severe impacts of poverty and environmental stresses. Efforts to support the most vulnerable may focus on women and children. Women and children are the most vulnerable people in DRC

as their access to and control over resources and capital, are more limited than men's and their sensitivity is more pronounced.

In the latest Gender Equality Index, DRC was ranked at the bottom on the 144<sup>th</sup> place out of 148 countries, making DRC one of the most challenging countries in the world for women and girls to live a life in dignity, just after Yemen, Afghanistan, Niger and Saudi Arabia. Gender inequalities exist within all sectors; be it in education, political participation, health, access to resources (financial, natural, judicial) and economic empowerment. Add to that the wide-spread gender based violence, alarming fertility rates, low or little access to SRHR-services and a low social value of women and girls, and the picture gets even grimmer. Women and girls are those who bear the brunt of the wide-spread poverty and inequalities in the DRC.

Apart from the general population, there are particular vulnerable target groups which deserve social work and social development interventions, e.g. street children, former child soldiers, orphans, victims of systematic sexual violence and domestic violence, victims of child sexual abuse, disabled people, and many more.

### **Climate variability and change, Environmental degradation, Poverty and vulnerability**

Africa is one of the most vulnerable continents to climate variability and change; a situation aggravated by multiple stresses and low adaptation capacity. The most vulnerable people in DRC are identified as the urban poor and small-scale farmers. The most vulnerable sectors are water resources and agriculture. Possibly the forests could be severely affected in the long run. Unlike many other countries water availability is not foreseen to become a serious problem for DRC due to the vast basins and the rainforest; however, there are tendencies of increased number of heat waves and intense rains, leading to flooding and soil erosion, less productive agricultural land, and destruction of roads and other infrastructure. Climate change may become a contributing factor to conflicts in the future, especially related to resource scarcity (e.g. scarcity of productive land). It might also have significant negative impacts on food security and biodiversity (endemic species could succumb and mountain species will see their habitat shrink). In addition, vector borne and waterborne diseases, such as malaria and schistosomiasis, could increase.

A vast majority of the poor Congolese population depend on agriculture, forestry and Artisanal and Small scale Mining (ASM) for their livelihoods. Environmental degradation and competition (even conflict) over natural resources is hence negatively affecting their livelihood opportunities. In DRC, more than 70% of the population lives below the poverty line; this is an extremely high figure also in comparison to other central African countries. The incidence of poverty is greater in rural (76%) than in urban areas (61%) and is highest in the provinces of Equateur, Bandundu, and Sud Kivu. Self-employed workers and apprentices are the poorest. The most vulnerable groups are the internally displaced populations (IDPs), widows, orphans and disabled, street children and child soldiers, people with chronic diseases, and indigenous groups.

In rural areas poverty is perceived as the absence of peace, presence of soil erosion, inability to obtain agricultural inputs, difficult to access safe drinking water, high work demands on women, malnutrition, problems with accessing markets and lack of transport infrastructure. *Hence, poverty in rural areas is closely linked to: the conflicts, availability and quality of natural resources, and livelihood opportunities.* In urban areas poverty is perceived as i.a. lack of money, jobs, electricity, transportation, decent housing, drinking water and sanitation. *In urban areas, therefore, poverty is linked with job opportunities and access to services and infrastructure.*

Around 40 million (almost 70%) of the poorest Congolese depend on the forest for their food, materials, energy and medicine. Some groups, especially the Pygmies, rely on forests almost entirely. Wood and charcoal provide 80% of all domestic energy consumed in the DRC. Small scale informal loggers produce most of the timber used locally. Bush meat is a vital source of food; annual consumption is estimated at over one million tonnes. Hundreds of plants for food, condiments and medicine, are used. The social and cultural significance of forests for forest-residing people is almost immeasurable. *Therefore, future large-scale logging risk to hinder local peoples' access to the forest, which would bring with it livelihood- and human rights problems for poor people, such as indigenous groups.*

## **ENVIRONMENTAL AND SOCIAL RISKS ASSOCIATED WITH THE SUB-PROJECTS**

The environmental and social (E&S) risks and impacts associated with the development of the programme subprojects in an area of low environmental and social sensitivity are likely to be readily identified, assessed and mitigated through the adoption of the good E&S practice. Environmental and social impact analysis of a project (or project options) consists of comparing the expected changes in the biophysical and socioeconomic environment with and without the project.

The subprojects that will be considered within this AfDB-GCF program will be subjected to the full project and sponsor-specific environmental and social due diligence with the support of an independent consultant. AfDB envisages that only category 2 projects will be considered under the framework and accordingly, each subproject will be individually reviewed and categorized and due diligence will be undertaken.

Based on this anticipation to consider only category 2 projects and in line with GCF's "Comprehensive Information Disclosure Policy of the Fund," it is understood that the Framework would have an overall categorization of category 2 according to the anticipated risk profile of the individual subprojects.

### **Project Environmental and social Categorization**

Due to the anticipated potential environmental and social impacts/risks the project is classified as "Category 2" according to the AfDB's Integrated Safeguards System (ISS) and Environmental

and Social Assessment Procedures (ESAP). A preliminary analysis of the proposed pipeline of subprojects has indicated some likely moderate environmental and social impacts. Since the subprojects have not been defined in detail, the analysis of impacts is based on a generic environmental baseline of the two regions where the projects will be located and the prescribed nature of proposed pipeline of the subprojects, i.e., Mini-Grid solar PV connections. In general, key E&S risks identified as cross-cutting for the project include land acquisition challenges, land use changes, alteration of drainage channels, increased soil erosion, labour / OHS risks during construction (which may include exposure to physical hazards from use of construction equipment; exposure to dust and noise, falling objects, hazardous materials, exposure to HIV and other STI due to influx of migrant workers), risks of pollution during works of the mini-grid system and during operation (mainly from unregulated disposal of batteries) and potential involuntary resettlement.

Where project sites would be located in agricultural areas, there is little opportunity for solar projects to share land with agricultural uses. This presents a problem as land to be designated for solar panels is often used by local communities for farming, cropping etc., even where they do not have formal land ownership. Most of these impacts/risks are few in number, site-specific, largely reversible, and readily minimised by applying appropriate management measures. The impacts are summarized below.

## **Negative Environmental and Social Impacts**

### **A. Impacts during Solar Installation phase**

#### **Impacts to the Bio-physical environment**

- i. Site preparations (Land clearance and leveling of terraces) will generate dust and local nuisance
- ii. Local disturbance of soil is expected at the level of sites of the mini-grids. However, considering the nature of works and materials to be used, it is not envisaged that pollution of soils and water will occur outside the sites of works, mainly the underground water.
- iii. Soil pollution due to the waste resulting from the rejects materials from the installations.

#### **Impacts to the human environment**

- i. The expected rural electrification is likely going to have minimal effects to people in aspects such as land acquisition/expropriation and loss in economic activities



- ii. The use of moving machine e.g. vehicles and construction machines, will result into nuisance in form of release of dust, noise and vibrations to which people will be exposed to
- iii. Exposure to risks and hazards to workers and local residents' works
- iv. Failure to use resident labour during construction could create frustrations/community tensions and even local conflicts that may result into vandalism, sabotage, looting or destruction/degradation of infrastructure and equipment.
- v. Social impacts due to influx of population to the projects areas such change in social behaviours and potentials for exacerbated risk for communicable diseases including HIV/AIDS associated with social interactions.

## **B. Operation phase Impacts**

### **Biophysical Environment**

- i. Due to the nature of the project operations, no negative impacts on air quality, soil or water resources is anticipated during operation phase
- ii. Soil pollution may occur due to poor waste management especially poor handling of used/obsolete batteries (leaking Lead and acid that may pollute soil and water)
- iii. The subproject components may also cause visual impact by altering the visual landscape of their locations which can occur during construction and operation. However, the impact may be reversible upon decommissioning. The extent of this impact will depend on the perceived importance of the impacted locations and would also depend on the extent of the project's footprint.
- iv. Solar systems can pose risks to wildlife especially birds that may confuse solar panels with water bodies. This could result in the loss and reduction of the local birds' population;

### **Human Environment**

- i. Exposure to occupational health and safety risks and hazards e.g. electrocution risks to people and maintenance technicians
- ii. Risks of theft cases in absence of adequate security measures
- iii. The existence of electricity energy (solar) will allow villagers to engage themselves in various economic activities;

- iv. The project will significantly reduce fuel consumption (diesel) and greenhouse gases (GHGs) into the atmosphere
- v. The availability and use of mini-grids and individual solar kits will reduce the population using the noisy generator sets, less noise nuisance to the communities.
- vi. Social impacts due to increased social interactions due increased population resulting from labour migration and increased economic activities in the areas (e.g. HIV-AIDS, increased pressure on social services and community resources, social pressures due to existence of the project in the area (potential increase/exacerbation of social conflicts in the project area)

**Environmental, social and economic co-benefits, including gender-sensitive development impact**

**Economic co-benefits:**

- Entrepreneurial job creation resulting from productive use of electricity in agriculture, agro processing and light manufacturing
- Long term Green job creation in the green economy sectors linked to sustainable energy and DRC climate adaptation action.
- Poverty alleviation through virtuous circle of more efficient value creation and about 40 % lower expenses devoted to energy for lighting and mobile charging for average residential households.
- Food security through climate resilient agriculture less dependent on rains through irrigated crops and refrigeration for better preservation of perishables

**Social co-benefits:**

- Focus on women entrepreneurs in the productive use component leading to reinforcement of the matriarchal society foundations
- Improvements in health and safety from elimination of smoke and soot from kerosene lamps and candles for lighting and fire hazard from naked flames
- Better access to education through lighting for homework and better access to web-based materials at school
- Water pumps for accessing underground water leading to higher education rate for girls
- Reinforced diaspora ties from gifts of electrical appliances and remittance used to procure electrical equipment for productive use and entertainment

## **Environmental co-benefits**

- Increased indoor air quality from use of LED lighting
- Reduction of soil and water pollution from unsafe disposal or elimination of batteries disposed
- Reduction in the use of traditional biomass (including wood), which accounts for 84% of all primary energy consumed in DRC;

## **Gendered energy divide concept**

The energy divide is also gendered with women in most developing countries experiencing energy poverty differently and more severely than men. Women are often associated with household activities and are to a large extent responsible for household and community energy provision in many developing countries.

Thus without access to modern energy services, women and girls spend most of their day performing basic subsistence tasks, including time-consuming and physically draining tasks of collecting biomass fuels, which constrains them from accessing decent wage employment, educational opportunities and livelihood enhancing options, as well as limits their options for social and political interaction outside the household.

At the same time, cooking from biomass is particularly detrimental to the health of women and children. Of the estimated two million annual deaths attributed to indoor air pollution generated by fuels such as coal, wood, charcoal and dung, 85% are women and children who die from cancer, acute respiratory infections and lung disease.

In fact, illnesses from indoor pollution result in more deaths of women and children annually than HIV/AIDS, malaria, tuberculosis and malnutrition combined. Other important direct health impacts from dirty energy use and indoor air pollution include life-long or chronic diseases, such as asthma; burns to children; injuries to women from carrying wood; and increased violence against women and girls because of lack of street lighting at night.

Violence against women can also occur during daylight hours in situations where resources are scarce and women are obliged to collect fuel from remote and isolated areas.

### **The enabling power of energy**

Without significant political commitment and investment, energy poverty is set to deteriorate even further over the next 20 years.

It is, therefore, one of the most critical challenges facing the international community today. At the same time, access to energy is a critical enabler for economic and social development. Once communities have access to modern energy services, the impact on human development is significant: from cleaner indoor air and improved health to more income generating opportunities and more time for other pursuits.

Moreover, promotion of renewable energy technologies has the potential of increasing access to modern energy services in rural areas that currently have no access to grid electricity and pay higher prices for energy service delivery because of the transportation costs and inefficiency of traditional energy forms (UNIDO, 2009).

Moving directly to smaller-scale, renewable energy systems such as stand-alone systems of wind and solar energy can provide communities with affordable energy, promote productivity and help in creating employment by empowering enterprises for both the rural and urban poor.

At the same time, large-scale, renewable energy systems based on hydropower, modern clean biomass, geothermal, wind or solar energy can diversify energy supply, reduce energy imports and provide significant local and global environmental gains (UNIDO, 2009).

Because of the gendered nature of energy poverty, access to modern, sustainable energy can also significantly enhance the empowerment of women by reducing their time and labour burdens, improving their health, and providing them with opportunities for enterprise and capacity building. Access to clean, affordable, sustainable energy is thus an enabling factor for economic development and poverty reduction as well as for achievement of internationally agreed development goals, including ensuring environmental sustainability and promoting gender equality. At the same time, access to energy services can be argued to be a human right in itself.

Energy access and consequent access to technologies can free up women's time, improve the productivity of their work and allow them to engage in income-generating activities.

Energy access provides opportunities for women entrepreneurs to make an income and enhance their social status by creating and disseminating sustainable energy solutions.

Recognize women as independent users of energy solutions and enable them to benefit from energy access, taking into consideration the challenges of land ownership/rights, access to credit, and social constraints.

### **Gender-sensitive development impact:**

The Program is anticipated to improve living conditions, particularly for women and girls, who are primary household caretakers and responsible for the availability energy sources for lighting and cooking. This mini-grid project strives to provide women and girls with equal opportunities of access to energy, education, health care, decent work, and representation in decision-making processes. The proposed measures are to provide equal training and employment opportunities for women when technical assistance is provided to MEHR.

Activities targeting women's participation and training as part of the TA will make sure that the program is gender-sensitive and the benefits are shared among men and women.

## **MITIGATION MEASURES**

### **Introduction**

Key E&S risks identified as cross-cutting for the project have been identified and presented in the previous sections. Table 5 presents key E&S challenges and relevant proposed mitigation measures

**Table 5: 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	Environmental and Social Management Systems (ESMS) requirements for mini grid developers; differentiate ESIA and ESMP requirements based on E&S risk categorization; detailed and step by step E&S responsibilities for key players for each project component
2.	Land acquisition, resettlement, livelihood restoration	A resettlement Policy Framework (RPF) has been prepared to address issues of involuntary resettlements. Also, Mini grid developers will prepare ARAPs. The RPF and the outline of the ARAP are available in Annex 10 of this ESMF.

3.	Lack of awareness on E&S risks and impacts (communities, SHS customers, universities)	Sensitization and dialogue via various methods of stakeholder engagement
4.	Lack of capacity among private sector implementing entities	Training for mini grid developers,
5.	Battery disposal and recycling (lead-acid and lithium ion)	Development of a strategic approach to engage mini grid developers and other Private companies in DRC in putting in place coherent battery storage, recycling, and disposal practices (See annex 9)

### **Approach to E&S Risk and Impact Mitigation**

The approach to E& S risks and impact mitigation will include the use of eligibility and exclusion list (as presented in Annex 2) during project preparation stages e.g. site selection and project screening.

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

Physical measures relate to issues of project sitting, 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, stakeholders' engagement platforms (establishment of special platforms of communication with local community, local Government Authorities, Community/traditional and religious leaders). Adequate stakeholders' engagement will be a key to address critical socio-economic conflicts which may due to implementation of the programme in the project areas. The programme will devise specific stakeholder engagement plan which will include grievance redress mechanism for the purpose of ensuring adequate inclusion of all stakeholders issues. Other socio-economic measures include 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 labour as much as possible and provide HIV/AIDS awareness training to the workers and the community, provide

guidelines on local culture, behaviour 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 burning or disposal of any hazardous materials found on site; use protective gear during work; remove or bury all abandoned construction materials and rubbles; 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.

Upon identification of key risks, appropriate mitigation measures should be applied based on the specific situation of each project sites. Annex 6 presents is a list of generic E&S impact mitigation measurements.

The management of environmental and social impacts will draw from applicable AfDB ISS in accordance with the Accreditation Master Agreement and/or such other related arrangements. Each project under the AfDB-GCF Mini-grid Programme will be required to conduct a detailed environmental and social assessment in accordance with international standards, which will include mitigation measures that draw from the results of the assessment and good international industry practice.

Projects considered for financing under the AfDB-GCF Framework will undergo the appraisal process detailed in the following sections of this ESMSF and will be evaluated against the requirements of the AfDB ISS and other international guideline and practices such as the IFC Performance Standards, the WBG Environmental, Health and Safety (EHS) General Guidelines and relevant EU Directives and Guidance Notes. The application of these different guidelines and best practices will be informed by the country-specific and site-specific characteristics of the projects and will be in line with the host country regulations.

The management of environmental and social impacts will draw from applicable AfDB Integrated Safeguard System (ISS) in accordance with the Accreditation Master Agreement and/or such other related arrangements. Each project under the AfDB-GCF Framework will be required to conduct a detailed environmental and social assessment in accordance with international standards, which will include mitigation measures that draw from the results of the assessment and good international industry practice.

## **Environmental, health, and safety**

Internationally accepted guidance on environmental, social, health and safety mitigation measures for renewable energy projects can be found in relevant EU Directives and Guidance Notes as well as the WBG Environmental, Health and Safety (EHS) Guidelines.

In line with MDB best practice, the Bank ISS specifically the IESIA Guidance notes requires that the borrower or client shall refer to the World Bank Group EHS Guidelines. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable at reasonable cost by commercially available technology. The discharged effluent, air emissions, and other numerical guidelines and performance indicators, as well as other prevention and control approaches included in the EHS Guidelines, are considered to be default values applicable to new projects, though the application of alternative performance levels and measures may be considered.

The General EHS Guidelines include guidance on a comprehensive range of environmental, occupational health and safety, community health and safety and construction and decommissioning topics. They should be used in parallel with the accompanying sector EHS Guidelines.

## **The AfDB Integrated Safeguard System (ISS)**

The environmental and social safeguards of the African Development Bank (AfDB, or the Bank) are a cornerstone of the Bank's support for inclusive economic growth and environmental sustainability in Africa. AfDB will apply the ISS for all projects considered under the AfDB-GCF framework.

The Bank ISS is designed to promote the sustainability of project outcomes by protecting the environment and people from the potentially adverse impacts of projects. This requires that all the projects will comply with these safeguards requirements of the ISS during project preparation and implementation. The safeguards aim to:

- Avoid adverse impacts of projects on the environment and affected people, while maximising potential development benefits to the extent possible;
- Minimise, mitigate, and/ or compensate for adverse impacts on the environment and affected people when avoidance is not possible; and
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

More details on the bank ISS can be found at this link:



[https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/December\\_2013\\_-\\_AfDB%E2%80%99S\\_Integrated\\_Safeguards\\_System\\_-\\_Policy\\_Statement\\_and\\_Operational\\_Safeguards.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/December_2013_-_AfDB%E2%80%99S_Integrated_Safeguards_System_-_Policy_Statement_and_Operational_Safeguards.pdf)

The ISS consists of four interrelated components:

### **1.1.1 The Integrated Safeguards Policy Statement**

Describes common objectives of the Bank's safeguards and lays out policy principles. It is designed to be applied to current and future lending modalities, and it takes into account the various capacities and needs of regional member countries in both the public and private sectors.

The Integrated Safeguards comprises of Policy Statement that sets out the basic tenets that guide and underpin the Bank's approach to environmental safeguards. The Bank's Integrated Safeguards Policy Statement sets out the Bank's own commitments to and responsibilities for delivering the ISS: to

- i. ensure the systematic assessment of environmental and social impacts and risks;
- ii. apply the OSs to the entire portfolio of Bank operations;
- iii. support clients and countries with technical guidance and practical support in meeting the requirements;
- iv. implement an adaptive and proportionate approach to environmental and social management measures to be agreed with clients as a condition of project financing;
- v. ensure that clients engage in meaningful consultations with affected groups; and
- vi. respect and promote the protection of vulnerable groups, in a manner appropriate to the African context

### **1.1.2 Operational Safeguards (OSs)**

These are a set of five safeguard requirements that Bank clients are expected to meet when addressing social and environmental impacts and risks. Bank staff use due diligence, review, and supervision to ensure that, clients comply with these requirements during project preparation and implementation. Over time the Bank may adopt additional safeguard requirements or update existing requirements to enhance effectiveness, respond to changing needs, and reflect evolving best practices.

### **1.1.3 Environmental and Social Assessment Procedures (ESAPs)**

ESAP provides guidance on the specific procedures that the Bank and its borrowers or clients should follow to ensure that Bank operations meet the requirements of the OSs at each stage of the Bank's project cycle.

#### 1.1.4 Integrated Environmental and Social Impact Assessment (IESIA)

Guidance Notes provide technical guidance to the Bank's borrowers or clients on standards on sector issues or on methodological approaches clients or borrowers are expected to adopt to meet OS standards. A summary of IESIA Guidance Notes has been presented in Annex 3.

The Integrated Environmental and Social Impact Assessment (IESIA) Guidance notes provide a systematic process for addressing projects' environmental and social impacts with a clear understanding of the specific sector characteristics.

The IESIA Guidance notes complement the guidance and formats provided in ESAP and provide guidance to RMCs when undertaking Environmental and Social Assessments for Bank-financed projects/programs. It will also be used by the Bank's Operational staff in reviewing and clearing these studies and in project supervision. The provision of high-quality technical guidance is key to ensuring effective compliance, capacity and ownership of the ISS for Bank staff and borrowers alike.

The IESIA Guidance Notes are presented in three standalone volumes that provide guidance in the three essential components of (i) the Environmental and Social Assessment process, (ii) specific topics and operational safeguard requirements, and (iii) technical guidance on key sectors and subsectors that have been proposed by operational departments as areas where guidance is needed:

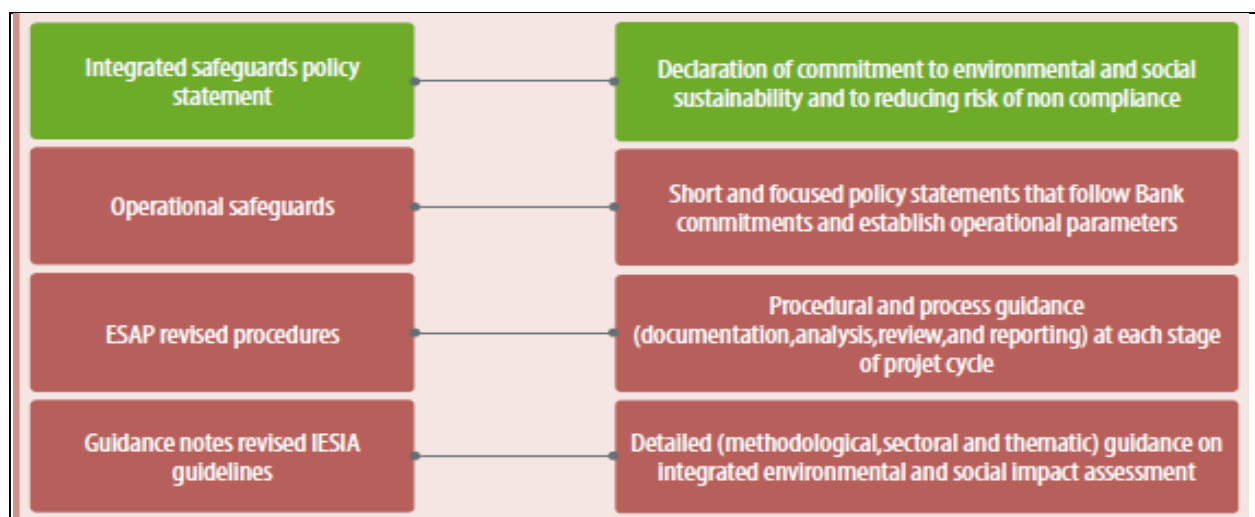


Figure 4: Structure of ISS

## **ENVIRONMENTAL AND SOCIAL ASSESSMENT PROCEDURES**

### **AfDB Environmental and Social Assessment Procedures (ESAPs)**

The Bank's ESAPs details the specific procedures that the Bank and its borrowers or clients should follow to ensure that Bank operations meet the requirements of the operational safeguards (OSs) at each stage of the Bank's project cycle. Its adoption and implementation enhance the environmental and social performance of the Bank's operations and improve project outcomes. The ESAPs will help to improve decision-making and project results by ensuring that Bank-financed operations conform to the requirements laid out in the operational safeguards (OS) and are thus sustainable. The ESAP describes how the Bank and its borrowers should work together to ensure that environmental, climate change and social considerations are integrated into the project cycle from country programming to post completion. It represents a coordination mechanism between the Bank, relevant government agencies and private sector entities and plays an important role in building the environmental, social and climate change management capacity of the project's executing agency. The Environmental and Social Assessment procedures apply during the entire project cycle, with differentiated tasks to be performed, roles and responsibilities for the Bank and its borrowers and clients.

Also, the Bank has an integrated system which will be used to ensure its E & S requirements are incorporated effectively into the whole programme cycle, i.e., Integrated Safeguards Tracking System (ISTS). The ISTS constitutes an integral part of the ESAP.

The following is a summary of the ESAP while more details can be found at this link: [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/SSS\\_%E2%80%93vol1\\_%E2%80%93Issue4\\_-\\_EN\\_-\\_Environmental\\_and\\_Social\\_Assessment\\_Procedures\\_ESAP\\_.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/SSS_%E2%80%93vol1_%E2%80%93Issue4_-_EN_-_Environmental_and_Social_Assessment_Procedures_ESAP_.pdf)

During country programming, the key task is to develop and update baseline data on RMCs' environmental and social components, policies, programs, and capacities to better integrate environmental and social dimensions into lending priorities. These are the responsibilities of the Bank's Sector Departments and Regional Departments.

At the project identification phase, the screening exercise focuses on the environmental and social dimensions of a project to categorize it in one out of four categories based on the potential adverse environmental and social impacts of the project. These tasks will be carried out by the Bank in collaboration with the clients.

During project preparation, the scoping exercise helps to define the scope of the Environmental and Social Assessments (ESA) to be completed by the Borrower based on the project category, with the assistance of staff from the operational departments. The preparation of these assessments including the development of management plans and systems requires

consultations with primary and secondary stakeholders. Once ESAs are finalized, the review process allows operational departments to ensure that Bank's vision, policies, and guidelines were adequately taken into account in project design and implementation. The clients/borrower will be in charge of the preparation of the required studies and plans while the Bank will be responsible for reviewing and validating the studies and plans.

During the appraisal phase, ESIA Summaries shall be reviewed and cleared by the Safeguards and Compliance Division. Finally, the procedures require the public disclosure of summaries in accordance with specified deadlines. All category 2 operations shall be disclosed for 30 days before Board deliberations. The Bank will be responsible for conducting site visits and verification activities with respect to the studies, plans, and systems developed by the borrowers.

At the project implementation phase, the Borrowers shall ensure the implementation of environmental and social management plans developed to address adverse impacts, while monitoring the project impacts and results. The Bank's operational staff shall supervise the Borrowers' work and verify compliance through supervision missions and/or environmental and social audits, whenever necessary. Audits are undertaken during the completion phase, and post evaluations shall also aim to assess the environmental and social sustainability of the results.

The ESAP also includes procedural requirements such as the categorization of projects, disclosure and monitoring of projects during implementation and operation.

All projects under the Facility will be categorized and structured to meet AfDB ISS requirements. These are further outlined below. Comprehensive monitoring, also further outlined below, will be carried out by AfDB and technical consultants implementing the support of the projects. Reporting to the GCF will be based on the results of this monitoring.

### **Sub-projects categorization**

In accordance to AfDB ISS, each sub-project will undergo environmental and social appraisal in order to determine whether the project can be financed also for the purpose of ensuring environmental and social considerations are incorporated effectively in the planning, implementation, and operation of the subprojects. Each sub-project under the AfDB-GCF program will undergo Initial environmental and social screening and be categorized accordingly at the initial stage of the project cycle, to determine the nature and level of environmental and social investigations, information disclosure and stakeholder engagement required. The categorization shall be done according to the guidance stipulated in the AfDB ESAPs. The following is the highlight of the categorization of project according to the Banks's ESAPs.

Category 1: Projects likely to cause significant environmental and social impacts – Category 1 projects are likely to induce significant and/or irreversible adverse environmental and/or social

impacts, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive.

Category 2: Projects likely to cause less adverse environmental and social impacts than Category 1 – Category 2 projects are likely to have detrimental site-specific environmental and/or social impacts that are less adverse than those of Category 1 projects. Likely impacts are few in number, site-specific, largely reversible, and readily minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards.

Category 3: Projects with negligible adverse environmental and social risks – Category 3 projects do not directly or indirectly affect the environment adversely and are unlikely to induce adverse social impacts. They do not require an environmental and social assessment. Beyond categorization, no action is required. Nonetheless, to design a Category 3 project properly, it may be necessary to carry out gender analyses, institutional analyses, or other studies on specific, critical social considerations to anticipate and manage unintended impacts on the affected communities.

Category FI: Projects involving lending to financial intermediaries – Category FI projects involve lending to financial intermediaries that on-lend or invest in subprojects that may produce adverse environmental and social impacts. Financial intermediaries include banks, insurance, reinsurance and leasing companies, microfinance providers, private equity funds and investment funds that use the Bank's funds to lend or provide equity finance to their clients.

Subcategory FI-A: the financial intermediary's portfolio is considered high risk, and it may include subprojects that have potentially significant adverse environmental, climate change, or social impacts and that are equivalent to Category 1 projects.

Subcategory FI-B: the financial intermediary's portfolio is deemed to be medium risk, and may include subprojects that have potential limited adverse environmental, climate change, or social impacts and that are equivalent to Category 2 projects.

Subcategory FI-C: the financial intermediary's portfolio is considered low risk and includes subprojects that have minimal or no adverse environmental or social impacts and that are equivalent.

***Notably, Projects categorized as A, or FI-A, will not be considered for financing under this AfDB-GCF program. AfDB proposes to present to GCF for projects categorized as B or C on a non-objection basis. Such projects will not be required to be brought to GCF's Board for further assessment and approval and will be approved through AfDB's established processes and implemented in line with the Bank's ISS. Projects will be required to meet the Bank's Operational Safeguards and GCF's public disclosure requirements.***

*The subprojects in category B or C will then be subjected to an appropriate environmental and social assessment and mitigation measures will be formulated to ensure environmental and social considerations are incorporated in the course of implementing the particular RE Programme subprojects.*

## **ENVIRONMENTAL AND SOCIAL MANAGEMENT ALONG THE PROGRAMME**

The sub-project shall be appraised based on the due diligence process beginning with the screening stage. The overall process is depicted in a flowchart below:

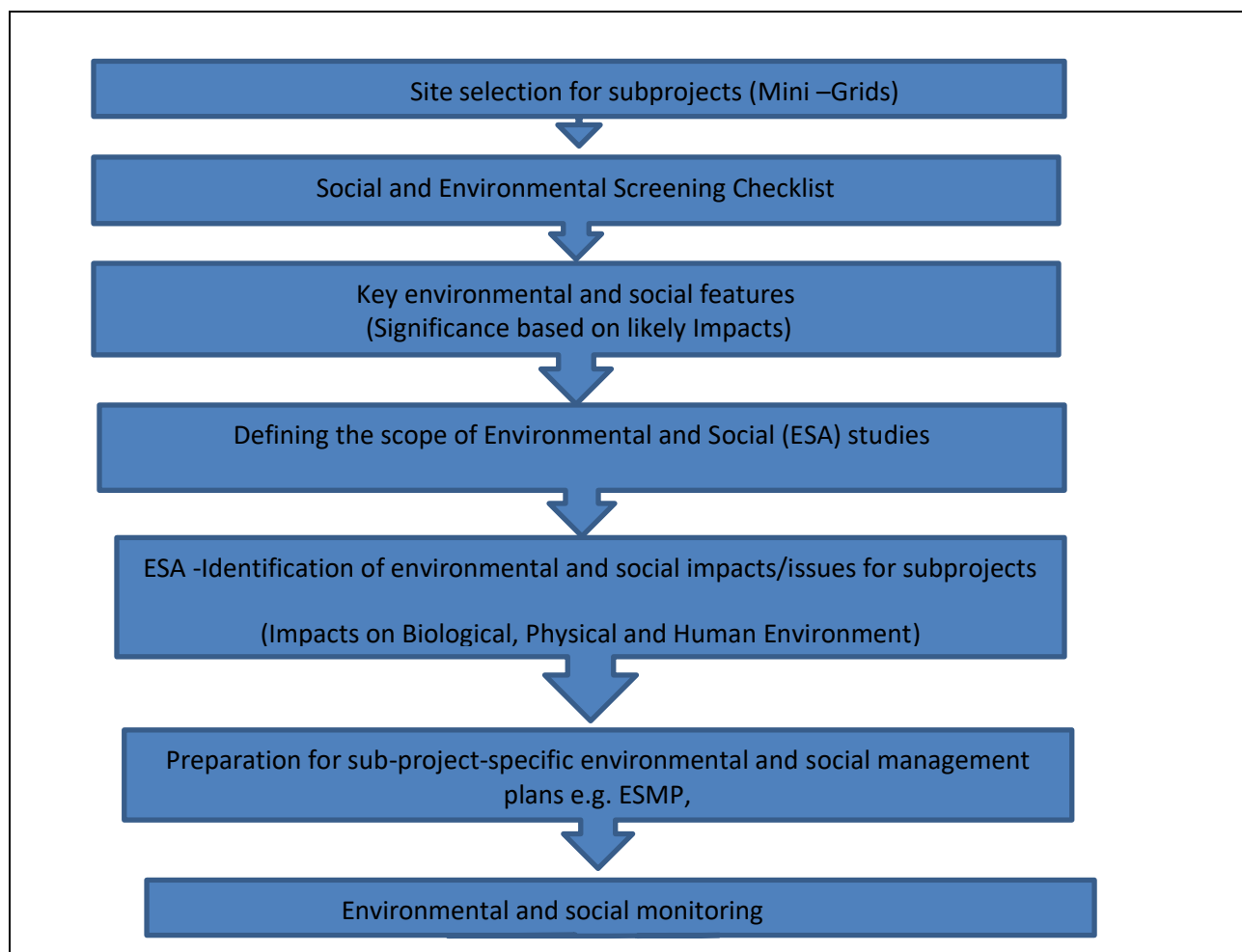


Figure 5: ESMF Process

The following sections describe what needs to be done in terms of Environmental and social management at each stage of the overall project life – sub-project identification, preparation, appraisal, implementation, and completion.

### **Identification and preliminary assessment (Environmental Screening and Scoping)**

Working with Bank operations staff, the borrower or client screens the project for environmental and social impacts—including climate change impacts, potential adaptation and mitigation measures, and the vulnerability of populations and their livelihoods—to determine the specific type and level of environmental and social assessment. The screening is carried out in accordance with the Bank’s Environmental and Social Assessment Procedures (ESAPs).

Basically, the Environmental and Social Screening will include screening for subproject categorization, AfDB OSs triggering and specific E & S aspects in each sub-project. The Initial Environmental and Social screening for the subproject categorization and OSs will be done with reference to the checklist available in Annex 2 of the Bank ESAP procedure Document. The screening for AfDB OSs and IFC performance standards will also be done and if the necessary recommendation for relevant safeguard instruments will be done. The environmental and social safeguard screening, i.e., checking for OSs that have been triggered, shall occur during the project preparation stage as soon as the fairly accurate site location is known for the sub-project.

The steps to be followed include the following:

- I. Confirm the presence of environmentally sensitive areas from secondary sources or preliminary site observations.
- II. Verify the extent of applicability of Government of DRC, and AfDB policies in subproject activities
- III. Identify potential negative and positive impacts; provide clarity on which issues need to be investigated more comprehensively during the preparation of Environmental & Social Impact Assessment that will be done during the design stage.

This should help with the sequencing of subprojects, and factor in timelines like those associated with regulatory clearance processes into project implementation.

The results of the screening process will help identify the scope of the ESA studies and timeframe required for obtaining the regulatory clearances (if any). The formulation of the subproject specific terms of reference (ToR) shall be done based on the screening outputs highlighting environmental and social components that require detailed assessment during the ESA stage.

### **Environmental and social assessment (ESA) studies**

The ESA is the most commonly used tool to ensure that environmental and social aspects are considered during decision making – by influencing design to avoid /minimize, and where unavoidable mitigating the residual adverse impacts and/or enhancing positive impacts. It also provides a platform for getting views from stakeholders including the directly affected population to improve the design.

The outline contents for each ESIA under the project shall be in accordance with local legislation and also adhere to AfDB requirements. The Bank ESAPs recognizes local legislation and country systems, to the extent possible to ensure that the assessment complies with the relevant legislation and standards applicable in the local jurisdiction, bearing in mind the equivalence of standards with those of the Bank. Detailed guidance regarding the ESIA/SIA contents according to the Bank requirements are stipulated in the Operational Safeguard 1: Environmental and social assessment.

Comparative analysis of the AfDB Operational safeguards and ESAPs with DRC Environmental legislation has been presented in this ESMF.

Based on requirement stipulated in the Principles of Environmental Protection Law (Law No.11/009 of July 09, 2011 alternatively known as DRC Environmental code, 2011) and its associated Decree No.14/019 of August 02, 2014, studies may take the form full Environmental and social Impact Assessment study or Environmental and Social Impact Study Notice depending on the nature and scale of the project and whether the environmental and social impacts can be readily mitigated.

The outcome of the screening process will sometime determine if a Comprehensive/full blown ESIA is required and, if this is likely, then it will often be more efficient to prepare a Comprehensive ESIA from the outset. On the other hand, if there is a satisfaction that the subproject will have no significant impacts on the environment or affected communities, or that the project brief discloses sufficient mitigation measures to ensure the acceptability of the anticipated impacts, then an environmental clearance is issued as procedures of the authorizing agency. The Environmental Assessment studies will take into accounts the AfDB OSs and local requirements as outlined in the DRC Environmental legislations.

In doing ESA studies, the AfDB-GCF program will involve the following aspects:

- i. Defining the scope and contents of ESA study in line with the already completed screening, and the Operational safeguards of the AfDB.
- ii. Obtaining information from primary or secondary sources regarding the current conditions of environmental and social features within the influence area of the subproject (Review of baseline).
- iii. Carrying out effective stakeholder consultations, including along the proposed subproject impact zone. This shall also include landless laborers / marginalized communities whose livelihood may be impacted due to sub-project.
- iv. Identifying feasible alternatives for proposed layout changes, use of alternative technologies, etc. in close collaboration with the Design team.



- v. Identifying and estimating quantitatively (to the extent possible), key impacts and classify these for ease of understanding and determination of significance (by severity, duration, project phase, etc.)
- vi. Selecting measures that can help manage these impacts in cost effective manner – reduce the negative ones; and enhance positive ones and estimate the residual impacts, including those that may need further study.
- vii. Clarifying the institutional arrangements, any capacity building needs, and resource requirements including grievance redress mechanism and budget as part of the preparation of environmental and social management plan.

Having identified the probable adverse impacts, the next step shall involve quantification of the impacts and develop action plans to mitigate such adverse impacts.

## **1.2 Environmental social management for the programme**

### **Environmental and social management plans**

The client is required to take into account the findings of the environmental and social assessment process and the outcomes of stakeholder engagement in order to develop and implement a programme of actions to address the identified environmental and social impacts and issues of the project as well as to determine any performance improvement measures to meet the Bank ISS.

Depending on the project, the programme of actions may consist of a combination of documented operational policies, management systems, procedures, plans, practices and capital investments, collectively known as Environmental and Social Management Plans (“ESMP”). Components of such plans or programmes may include, for example, Environmental Management Plan (EMP), Stakeholder Engagement Plan and/or other specific plans. These studies may be incorporated in the relevant Environmental and Social Assessment document (e.g. ESIA or Environmental Impact Study Notice). Alternatively, these plans may be stand-alone documents.

Environmental and Social Management plans are the key tools to structure projects to meet the OSs as well as a key instrument for monitoring of the project’s ongoing environmental and social performance by AfDB.

If no corrective actions have been identified in the environmental and social assessment, an ESAP would not be required.

### **Instruments for the environmental and social management**

A series of environmental and social instruments (templates) have been designed for use to systematize the environmental and social activities that will be developed along the project cycle, organize the processes, and keep records of the process.

The management instruments identified for the different stages of the project cycle are the (i) Environmental and Social Screening Form (ESSF);(ii) Quarterly Environmental and Social Implementation reports (iii) Environmental and Social Monitoring Report (ESMR); and (iv) the Environmental and Social Final Report (ESFR). ESSF, ESMR, and ESFR are internal tools to be used in daily routine activities while the Quarterly Implementation reports are external documents to be shared with the AfDB. Annex 1 contains templates of these internal management instruments.

#### **Environmental and Social Screening Form**

The ESSF is the first management instrument to be created by the developers during the first stage of the project cycle (Identification Stage) to identify the potential environmental and social risks, their categorization, and the level of environmental and social studies required by the subproject to be conducted during the assessment stage.

#### **Quarterly Implementation Reports**

The Client will be required to prepare Quarterly Implementation reports on the environmental and social performance of the project, including updates on the implementation of the Environmental and Social Management and/or Action Plans. The reports will be submitted to the Bank for review purposes.

#### **Environmental and Social Monitoring Report**

The report can be during works execution to follow up and monitor the implementation of the environmental and social measures identified in the ESMPs. The ESMR contains basic information about the periodic field visits, the persons who visited the subproject, the environmental and social aspects observed during the site visit, and recommendations for the developers/contractor.

#### **Environmental and Social Final Report**

The ESFR is the fourth and final management instrument and can also be used once the subproject's works execution has ended to verify compliance with the environmental and social measures agreed upon in the plans.

## **Studies for environmental and social management**

To comply with national environmental law and safeguards, all infrastructure projects must go through an environmental and social assessment process.

### **Environmental and social studies required by national legislations**

The ESIA and Environmental and Social Impact Notice (at project level) has been identified as the environmental studies required by DRC Environmental legislations, i.e. Principles of Environmental Protection Law (Law No.11/009 of July 09, 2011 alternatively known as DRC Environmental code, 2011) and its associated Decree No.14/019 of August 02, 2014. The legislations provide the list of projects which undertaking of environmental assessment is mandatory.

### **Environmental and social studies required by the Bank's Operational Safeguards and IFC Performance Standards**

If any additional safeguard issues are identified, it will be necessary to conduct environmental and social studies to comply with the Bank's Operational Safeguards and IFC Performance Standards:

If natural biodiversity hotspots or important ecological zones are identified, a focused analysis of the biodiversity and ecosystem services is always necessary to identify measures to prevent, mitigate, and/or compensate, the potential negative impacts into the ESIA document. Usually, a supplementary Biodiversity Management Framework have to be developed.

If policy or standards related to involuntary resettlement is triggered, a full Resettlement/Compensation Action Plan or Abbreviated Resettlement/Compensation Plan must be developed. *It is anticipated that, all sub-projects will have minimum relocation and thus an abbreviated RAP will be used to address all issues related to involuntary resettlement as per AfDB IR policy.*

In case of potential impacts in areas recognized for cultural or historical significance, then IFC performance standard 8 on Cultural Heritage is triggered, which requires the use of the Chance Find Procedures Plan to prevent or minimize potential impacts.

***However, all projects identified to be located on biodiversity hotspots or important ecological zones, or cultural heritage sites along with projects with the extent of involuntary resettlements as category 1 projects have been excluded among the projects to be financed by the AfDB-GCF mini-grid programme. Annex 2 of this ESMF presents performance criteria and detail information project eligibility and exclusion criteria.***

### 1.3 Environmental and social monitoring

AfDB's ISS specifically the Environmental and Social Assessment Procedures outline the approach and process for monitoring Environmental and Social performance in its investments based on tracking the implementation of the Performance Requirements, i.e., The Integrated Safeguards Tracking System (ISTS). The Integrated Safeguards Tracking System (ISTS) constitutes an integral part of the ESAPs. The ISTS's basic purpose is to facilitate the verification of project compliance with the requirements set out in the OSs of the Integrated Safeguards Systems, over the course of the Project Cycle.

This covers monitoring activities being undertaken by our clients, and the monitoring undertaken by AfDB staff through the review of reports received, site visits and third-party monitoring. The monitoring activities for each project are determined on the basis of the environmental and social risks and impacts associated with the project identified during the environmental and social assessment.

They may also reflect any significant stakeholder concerns and include an environmental and social project completion review or audit, where relevant. As a minimum, AfDB reviews the Quarterly Implementation reports prepared by clients on the environmental and social performance of the project, including updates on the implementation of the Environmental and Social Management and/or Action Plans. AfDB staff may also, as necessary, undertake site visits to review the compliance of the project with agreed environmental and social requirements.

More specifically, the ISTS has a number of key functions:

**Repository function:** The ISTS acts as a repository for key ESA information generated over the lifetime of the project. At each stage of the Project Cycle, fundamental environmental and social information relevant to that stage shall be inserted into the ISTS such that, over the project lifetime, the required information is compiled into one document, to be used to facilitate periodic compliance checks.

**Tracking function:** The ISTS is linked to the Bank's project management / SAP database system and is thus used to directly monitor project progress. The ISTS is used to ensure that a project can only advance from the Project Identification Phase to the Project Appraisal Phase once the relevant OS / ESAPs requirements have been adequately fulfilled. The ISTS is also used to ensure that a project can only be submitted to the Board once the relevant OS / ESAP requirements have been adequately fulfilled through the issuance of an ESCON by the Safeguards and Compliance Division.

**Access to information function:** The ISTS provides a mechanism through which ESA information can be accessed by the public. The ISTS is made available at the point at which the Project

Concept Note (PCN) is approved by Ops Com. ISTS contains links to the summaries of the ESA studies. It also provides the mechanism through which members of the public can request complete versions of all ESA studies if required.

If the client fails to comply with its social and environmental commitments, as set out in the legal agreements, AfDB may agree with the client remedial measures to be taken by the client to achieve compliance. If the client fails to comply with the agreed remedial measures, the Bank may take such action and/or exercise such remedies contained in the financing agreements that it deems appropriate. AfDB will also review with the client any performance improvement opportunities related to projects.

On the other hand, monitoring arrangement on the side of AfDB's clients, i.e. the Ministry of Energy and subprojects proponents will be categorized into two categories. Firstly, routine Environmental and Social Monitoring reports which will be prepared during the works execution to gauge for implementation of agreed parameters/aspects in the mitigation plans. Secondly, quarterly Monitoring report as part of implementation report submitted quarterly to the Bank will be used.

## **ROLES AND RESPONSIBILITIES FOR MANAGING ENVIRONMENTAL AND SOCIAL REQUIREMENTS**

### **Clients role and responsibilities**

The Bank expects its clients to manage the environmental and social issues associated with the projects to meet the Bank Operational Safeguards (OSs) over a reasonable period of time. Projects involving new facilities or business activities will be designed to meet the OSs from the outset. If a project involves existing facilities or activities that do not meet the OSs at the time of Board approval, the client will be required to adopt measures satisfactory to AfDB, that are technically and financially feasible and cost-effective to achieve compliance of these facilities or activities with the OSs within a time frame acceptable to AfDB. In addition, the Bank will work with its clients to manage environmental and social risks consistent with the OSs in their other operations that are associated with but not part of the project.

It is also the client's responsibility to ensure that adequate information is provided so that the Bank can undertake an environmental and social assessment in accordance with the Bank ESAPs. The client may be required to commission appropriate environmental and social studies and conduct stakeholder engagement and cover the costs of these. The client is also expected to allow AfDB representatives and independent consultants to access project facilities and records.

### **AfDB's role and responsibilities**

AfDB's responsibilities are consistent with its role as an international financial institution providing bank financing for projects through the use of AfDB's resources approved by its

management and Board of Directors or any other decision-making body. With respect to any particular investment or technical co-operation project, the level of AfDB's engagement is determined by the nature and scope of the project, availability of donor funding, as well as the specific circumstances of the collaboration and relationship with the client.

### **Program Institutional/Implementation Arrangement**

The AfDB will be responsible for the overall oversight of the framework implementation and will report to GCF per the terms to be agreed under the Accreditation Master Agreement (AMA) and the Funded Activity Agreement (FAA). For managing the GCF resources, a special Trust Fund will be set-up within the AfDB as a stand-alone facility and the Bank's role will be to administer the funds. Under this scheme, the AfDB will be a direct lender to the projects in its capacity as an Accredited Entity.

The pipeline mini-grid projects will be selected through a competitive tendering process. The AfDB will apply its credit evaluation, due diligence and approval procedures in appraising potential clients, and only those sub-projects qualified under the AfDB's internal criteria will be eligible for investment under this framework.

The project falls under the responsibility of the Ministry of Energy and Hydraulic Resources (MEHR) which controls and regulates all the entities responsible for Energy. The Unit for the Management and Coordination of the Ministry's projects (UCM) under MEHR will provide the high level overall coordination and monitoring of the program.

The Ministry of Energy and Hydraulic Resources, at central level, will be awarding the concession agreement - "Délégation de Service Public (DSP)" under the 2014 Electricity Law to preferred bidders. Generation and distribution will be bundled within one single concession for a 20-25 years<sup>9</sup> period held by one special purpose vehicle (SPV), covering the financing, construction, ownership and operatorship - BOOT model. It is considered that provincial governments will sign the concession agreements together with the central Ministry to ensure local ownership. The concessionaire will have key performance obligations (number of connections, COD, etc.) to be checked by an Independent Engineer on behalf of the conceding authorities. No guarantee will be provided on commercial risk such as low demand and inability to collect revenues. Compensation payments will be agreed in the concession agreement for termination upon the event of default by project company or conceding authority, force majeure, or other political events.

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<sup>9</sup> A 20-year concession period was assumed for the purpose of financial modelling and pre-feasibility studies. The exact concession period will be determined by the UCM/Ministry of Energy and Hydraulic Resources in due course.

For the TA grants component, UCM under the Ministry of Energy and Hydraulic Resources will implement the TA activities. Fund management and procurement will follow relevant policies and rules of the AfDB, guided by the grant agreement to be signed between UCM and the AfDB. While TA grantee will procure and contract consultants and service providers, the AfDB will hold and manage the grant resources and make a direct payment to consultants/service providers.

### **Institutional arrangements for the implementation of the ESMF**

For the implementation of the ESMF, institutional arrangements will be required. The organizational framework for implementing the ESMF measures includes:

#### **Roles and responsibilities of Main Implementing entity**

The key players are the UCM under MEHR, the private mini grid developers, GEEC, the affected communities, and the independent auditor hired by the mini grid developers to conduct annual E&S review. They each have different roles and responsibilities:

- Setting applicable E&S requirements (E&S requirement setting)
- Screening for E&S risk and impacts (E&S screening)
- E&S due diligence and risk management (E&S due diligence)
- E&S monitoring
- E&S reporting
- Independent E&S audit

Individually all entities have the following responsibilities:

#### ***The Project Coordination and Management Unit (UCM) under MEHR***

The unit will be the main implementing entity. UCM will provide overall coordination of the Project and lead in the implementation of the program Components, which will include overall responsibility for safeguards due diligence, and compliance monitoring. Further, UCM will be responsible for the overall coordination of the project implementation and oversight. UCM shall consist of environmental and social safeguards specialist (ESSS) and a Community liaison officer (CLO), who will responsible for all issues related to stakeholders' engagement. Specifically, in terms of E&S risk management across project components, PMU for the project will be responsible for:

- i. Overall oversight of the E&S risk assessment, management, and monitoring processes in line with this ESMF, for each component of the Project;
- ii. Putting in place and implementing a reporting system from private sector entities to UCM on implementation of E&S requirements;

- iii. Engaging an independent E&S auditor to ensure that private sector entities are implementing E&S requirements set out in the ESMF consistently;
- iv. Assuming responsibility for stakeholders' engagement, maintaining adequate stakeholder engagement and grievance redress mechanism and ensuring that private sector entities maintain the same at their level. UCM will establish a communication line between its site offices and ensure project success on this aspect. It will also facilitate liaison with MDAs, CBOs, NGOs and project affected communities;
- v. Designing, organizing and implementing capacity building programs for mini grid developers and other key stakeholders;
- vi. Defining, jointly with the respective states and local governments, the project priorities based on technical and policy development priorities;
- vii. Resolving in consultation with the Provincial/local governments challenges requiring high level intervention facing the project; and
- viii. Monitoring the implementation of the project in consultation with the states and local governments.

**Mini grid Developers:** plan and conduct the construction and is responsible for complying with all relevant E&S requirements. Its responsibilities include:

- i. 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 UCM and other investors (if any).
- ii. E&S screening: mini grid developers will
  - a. Conduct the actual E&S screening based on all relevant requirements, employing or hiring 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.
- iii. E&S due diligence: mini grid developers will prepare and integrate into project design the SEMP, the Stakeholder Engagement Plan (SEP) and grievance mechanism.
- iv. E&S monitoring: mini grid developers will conduct self-monitoring activities in line with their ESMS and maintain all monitoring records properly.
- v. E&S reporting: mini grid developers will
  - a. Prepare annual E&S reports to UCM based on UCM'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.
- vi. 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.



- The implementing agencies of the components (ARE/ANSER): they implement, monitor and follow-up the environmental and social measures of the sub-projects. They also report on the execution of such measures. Each of them has an Environmental and Social Service composed of a specialist in environmental and social safeguarding.

- GEEC under the Ministry of Environment, Conservation of Nature and Tourism: GEEC reviews and approves the environmental classification of projects and approves the impact studies and the ESMPs of the subprojects and participates in the external monitoring of implementation. –

Works companies contracted by Mini-grid developers: they implement the (contractual) mitigation measures as well as the environmental and social clauses with the periodic production of reports on the implementation of these measures.

- Local and regional authorities (Provincial Authorities): through the communal cells, they participated in project implementation through the pre-selection of the subproject sites, the identification of PAPs, the registration of complaints, and the proximity follow-up of actions on the ground.

- De-concentrated technical services (Other sector Institutions/departments/Agencies related with community and Natural resources such Land, Forestry, Water, Gender/Social protection): they support the implementation of environmental and social measures on the ground in their respective fields and provide support in monitoring and reporting.

- Associations, NGOs and local populations: they support the implementation of the communication plan and the prevention of conflicts.

- Village Development Councils (CVDs): they support the implementation of subprojects, particularly in the areas of PAP identification, conflict prevention/resolution and loss compensation.

- Customary and religious Authorities: they support the implementation of mitigation measures in the public consultation component and the process of conflict management and litigation related to PAPs.

## **STAKEHOLDER ENGAGEMENT AND GRIEVANCE MANAGEMENT**

### **Stakeholders' consultation and engagement**

AfDB recognizes the importance of open and transparent engagement between clients, workers, local communities directly affected by projects and, where appropriate, other stakeholders as an

essential element of good international practice (GIP) and corporate citizenship. Such engagement is also a way of improving the environmental and social sustainability of projects. In particular, effective community engagement, appropriate to the nature and scale of the project, promotes sound and sustainable environmental and social performance and can lead to improved financial, social and environmental outcomes, together with enhanced community benefits. Stakeholder engagement is central to building strong, constructive and responsive relationships which are essential for the successful management of a project's environmental and social impacts and issues.

OS 1 states that the borrower or client shall be responsible for conducting and providing evidence of meaningful consultation (i.e., consultation that is Free, Prior and Informed) with communities likely to be affected by environmental and social impacts, and with other local stakeholders. The key focus of meaningful consultation is equity and inclusivity; namely, the approach taken needs to ensure that all groups (including those that are disadvantaged or vulnerable) are embraced within the consultation process on equal terms and that all groups are given the capacity to express their views with the knowledge that these views will be properly considered.

OS 1 also states that the borrower or client shall be responsible for ensuring the satisfaction of Broad Community Support (BCS), especially for Category 1 projects (***Note, the program will not include category 1 projects***) and for projects affecting Indigenous Peoples, with a view to promoting appropriate solutions that do not harm livelihoods. Consultation shall be conducted with the objectives of ensuring BCS for a project and of ensuring that affected people endorse the proposed mitigation and management measures. Considered by the Bank as a key principle, BCS is defined as a collection of expressions by affected communities, through individuals or their recognized representatives, in support of the project.

In this AfDB-GCF program, consultation shall be tailored to the language preferences of the affected communities, their decision-making process, and the needs of disadvantaged or vulnerable individuals or groups. With this scenario, the BCS will be about whether the affected communities are “in support of the project” and not about whether there is a lack of opposition to the project. To ensure BCS, consultation shall provide opportunities for affected communities to express their views on project risks, impacts and mitigation and management measures, and shall allow the borrower or client to consider and respond to them in ways that facilitate the ultimate realization of BCS.

The Bank requires that consultation shall be considered an ongoing process, not just as a step in the procedures for obtaining project approval. It shall begin at the project identification stage, or at least at an early stage during project preparation, and shall continue throughout the life of the project through to construction, operation and decommissioning. As the Bank recognizes local requirements in addressing E & S considerations, stakeholders' consultation and engagement will

also incorporate the requirements of consultation during undertaking of ESA studies as prescribed in DRC Environmental legislations (specifically Section 4, article 24 of the DRC Environmental code, 2011 and section v of the Decree No.14/019 of August 02, 2014).

The results of the consultation should be adequately reflected in the project design and in the project documentation. The affected communities are given the opportunity to participate in key stages of project design and implementation. Therefore, stakeholders will be consulted to obtain their input into the preparation of the draft terms of reference of the environmental and social assessment, and associated Environmental Assessment studies (Draft Environmental Impact Study Notice or the draft ESIA report and summary, and the draft ESMP). Consultations will be conducted with the objective of ensuring that the project has broad community support, and that affected people endorse the proposed mitigation and management measures. When the borrower or client has identified vulnerable communities that would potentially be affected by the project, the borrower/client engages in meaningful informed consultation and participation with the vulnerable communities, beginning as early as possible in the project cycle before the project is submitted for approving the project for financing.

The client and the Bank will make available to the public the ESIA documents. The procedures require the public disclosure of summaries in accordance with specified deadlines. All category 2 operations shall be disclosed for 30 days before Board deliberations.

In addition, the Bank (IESIA) Guidance Notes contain detail information on the mechanism of consultation defining various aspects of consultation including consultation objectives, requirements, approach in carrying out a consultation (How to carry consultation, how shall people be consulted, who to be involved and at what stage). Marking the specific aspect on stakeholders' engagement, the (IESIA) Guidelines Notes also provides guidance on vulnerable groups' identification as per OS 1 requirements on vulnerable groups and also offer differentiated measures for vulnerable groups' inclusion in development. The notes further provide guiding principles on Indigenous Community Development Plan (ICDP) and contents of the plan.

### **Mechanisms to ensure evidence on BCS**

OS 1 states that the borrower or client shall be responsible for conducting and providing evidence of meaningful consultation (i.e. consultation that is free, prior and informed) with communities likely to be affected by environmental and social impacts, and with other local stakeholders. The key focus of meaningful consultation is equity and inclusivity; namely, the approach taken needs to ensure that all groups (including those that are disadvantaged or vulnerable) are embraced

within the consultation process on equal terms, and that all groups are given the capacity to express their views with the knowledge that these views will be properly considered.

To ensure BCS, consultation shall provide opportunities for affected communities to express their views on project risks, impacts and mitigation and management measures, and shall allow the borrower or client to consider and respond to them in ways that facilitate the ultimate realization of BCS.

Consultation shall be documented; in particular, the specific actions, measures or other instances of project decision-making that have been influenced by, or resulted directly from, the input of those who participated in the consultation. In addition, the specific consultation activities should themselves be documented, in the form of attendance registers, meeting minutes, photographs and other forms of consultation log (such as diagrams, drawings etc.). If consultation has already taken place on a project, the borrower or client shall be able to provide adequate documented evidence of such prior consultation.

Consultation outcomes shall also be reported back to affected communities and other stakeholders at regular intervals. Affected communities and other stakeholders will want to know how their opinions and recommendations have been taken into consideration by the borrower or client, which ones have been adopted by the borrower or client, what risk or impact mitigation measures will be put in place to address their concerns, and how, for example, project impacts are being monitored.

### **Vulnerable group inclusion**

The AfDB ISS defines vulnerable individuals or groups as those within a project's area of influence who are particularly marginalized or disadvantaged and who might thus be more likely than others to experience adverse impacts from a project. The vulnerability can be determined by identifying the likelihood that an individual or a group faces harder conditions as the result of the implementation of a project.

Vulnerable status may stem from a group's gender, economic status, ethnicity, religion, cultural behavior, sexual orientation, language or physical and psychological health conditions. Vulnerable groups may include, among others, female-headed households, those below the poverty line, the landless, those without legal title to assets, ethnic, religious and linguistic minorities, Indigenous Peoples, those who are disabled, etc.

Vulnerable groups are more likely to be exposed to adverse impacts in large-scale projects with a large area of influence, potential cumulative impacts, and multiple affected communities, than in small-scale projects that have site-specific issues.

### **AfDB ISS requirements on vulnerable groups**

AfDB is committed to promoting Human Rights on the African continent as well as to protecting vulnerable groups – particularly Indigenous Peoples – within the context of national systems and regulations.

OS 1 states that, *in assessing the potential impacts of Bank operations on affected communities, the borrower or client shall make use of adequate and qualified expertise to identify people and groups that may be directly, indirectly and/or disproportionately affected or marginalized by the project because of their recognized vulnerable status.*

OS 1 also states that, *where groups are identified as vulnerable, the borrower or client shall implement appropriate differentiated measures so that unavoidable adverse impacts do not fall disproportionately on these vulnerable groups, and so that they are not disadvantaged in sharing development benefits and opportunities (such as roads, schools, healthcare facilities, etc.).*

OS 1 also emphasizes *the need to assess gender issues in the context of vulnerability. A gender assessment shall be made for every project and shall form the basis for project design and compensation plans that lead to enhanced gender balance.*

Finally, OS 1 states that *groups that may be considered vulnerable may include social or cultural groups recognized as Indigenous Peoples. The Bank seeks to promote the safeguarding of Indigenous Peoples' lands, natural assets and other cultural heritage by its member countries and to provide special protection for projects that may involve their resettlement.*

Also, the ISS requires the Environmental and Social Assessment (ESA) process to systematically identify vulnerable groups. The identification of vulnerable groups shall be the result of a careful analysis of the social and economic context in which the project will operate. The presence of factors that causes vulnerability should be analysed, as should potential project impacts on vulnerable groups, the capacity of the vulnerable groups to cope with, or adapt to, such impacts, and the potential for such impacts to be mitigated in a way that takes account of the specific vulnerabilities or marginalization status in question. Taking the particular circumstances of the vulnerable groups into account should help borrowers or clients to better define impacts relevant to the groups, and to improve the design and implementation of a specific Community Development Plan (CDP) or an Indigenous Community Development Plan (ICDP).

### **Objective and scope of vulnerable group identification**

The objective of identifying vulnerable groups is to enable a strategic focus on the consideration of their views and specific needs during the project planning, and thereby to specifically avoid harm to them, as well as to ensure that they have the opportunity to participate in and benefit from the proposed project. Having identified the vulnerable groups, the objective becomes to

define differentiated measures for them to ensure that they are protected and that suitable benefits are adequately planned and directed to them (see below).

- **Vulnerable Groups and Gender**

Projects may have different impacts on women and men, owing to their different socio-economic roles and their varying degrees of access to and control over assets, productive resources, and employment opportunities.

Gender discrimination often limits access to the resources, opportunities, and public services necessary to improve standards of living. In addition, there may be norms, societal practices, or legal barriers that impede the full participation of people of one gender (usually women, but potentially men) in consultation, project planning, decision-making, implementation of project activities or the sharing of benefits.

- **Other Vulnerable Groups**

Those of low economic status, particularly those below the poverty line, the landless and those without legal title to assets may also lack the resources and capacity to participate in project decision-making or benefit-sharing to the same degree as those of higher economic status.

In addition, those with health conditions, those who are disabled, etc., are also groups that commonly lack the capacity, means or voice through which to avoid negative project impacts and reap project benefits.

### **Differentiated measures for vulnerable groups' inclusion in development**

Once groups have been identified as vulnerable, the borrower or client shall propose and implement differentiated measures so that adverse impacts do not fall disproportionately upon them, and so that vulnerable groups are not disadvantaged in sharing development benefits and opportunities. Differentiated measures are required to respond to the requirements of specific types of vulnerable groups. The AfDB ISS provides guidance to differentiated measures requirements to specific types of vulnerable groups including measures responding to vulnerable gender groups, indigenous people, vulnerable groups experiencing resettlements and other vulnerable groups such as groups of low economic status, those with health conditions, those who are handicapped, etc.

Meaningful consultation is of vital importance in determining what differentiated measures are necessary for the particular vulnerable groups in question, as well as in seeking broad community support (BCS) from such vulnerable groups. There should be a targeted and meaningful consultation process, backed by adequate information, and carried out with each vulnerable group.

Specific, targeted consultation sessions with each vulnerable group are important because consultations with non-vulnerable groups may not always reveal the special conditions or concerns of vulnerable groups, and how these might be addressed in a differentiated and targeted manner (see Guidance Note on Consultation).

Consultation around differentiated measures for vulnerable groups requires a socially and culturally sensitive approach that shall ensure that:

The vulnerable group in question is represented in discussions, and that members of this group are given ample and appropriate opportunities and channels to express their views, concerns and aspirations in the language and manner of their choice, without external manipulation, interference, coercion, or intimidation.

Representative bodies and civil society organizations, as well as a sufficient number of members of the vulnerable group themselves, are included in the consultation process.

Local leaders deemed to “represent” the views of vulnerable members of the community actually have the members’ consent and understand their views and perspectives.

Spaces for discussions are created that are perceived to be “safe” from the perspective of the vulnerable group, and that are easily accessible to them.

The consultations with each vulnerable group should primarily seek to elucidate the special conditions and concerns of the group in question, and the form that associated differentiated measures should take in order to ensure that the vulnerabilities of the group in question are not further exacerbated by the project and that the group is given the opportunity and the capacity to benefit from the project according to their views and needs.

For the DRC mini-grid programme, gender mainstreaming and Vulnerability assessment has been suggested among further assessments to be undertaken in order to ensure gender equality and social inclusion measures are incorporated in the program (refer Annex 5).

Therefore, in addressing issues related to vulnerable groups inclusion in the programme, the Ministry of Energy through UCM as its main implementing entity shall work closely with relevant Institutions (according to existing legal and administrative framework of the country as presented in the baseline information) to ensure vulnerable groups are included in the program and emerge among its beneficiaries.

### **Gender Mainstreaming and Vulnerability Assessment**

The term “vulnerable groups” refers to people who, by virtue of gender identity, ethnicity, age, disability, economic disadvantage or social status may be more adversely affected by project

impacts than others and who may be limited in their ability to claim or take advantage of project benefits. Vulnerable individuals and/or groups may also include people living below the poverty line, the landless, the elderly, women- and children- headed households, refugees, internally displaced people, ethnic minorities, natural resource dependent communities or other displaced persons who may not be protected by national and/or international law. It is important to identify and address these groups during the early consultation phases of the projects in order to avoid placing additional strains on these groups as a result of the project.

The empowerment of vulnerable groups, especially women and youth groups is essential for public good and more so that a number of them are farmers as well. The feasibility study has revealed that, in the two regions, women are largely involved in agricultural and related activities. Thus, adequate women engagement is a key aspect to ensuring the sensibility and sustainability of the overall project management. Therefore, demonstrated efforts should be done to encourage the participation of women in the project. Annex 5 outlines some information that should be provided in an assessment of the challenges and opportunities for gender concerns.

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

Criteria used to assess Project-induced vulnerability include pre-Project poverty, household composition, income, food supply, housing, social support, and health.

The criteria are used to establish household vulnerability relative to local conditions. Vulnerability thus becomes locally defined as those households that are recognized to be in a difficult situation against the background of general poverty in the area.

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

Project measures to identify vulnerable households and individuals include:

- Participatory engagement techniques to confirm community perceptions of well-being and to identify at-risk households;
- Analysis of baseline data to identify at-risk households;
- Implementation of household monitoring surveys designed to reveal trends in social welfare (household composition, assets, sources of income, expenditures etc.);



- Self-registration at offices of households that identify themselves as vulnerable or at risk; with all such registrations leading to an evaluation of that household by the project/investor team in order to assess the households' vulnerability; and
- Regular visits to all physically displaced households and any economically displaced households identified as vulnerable during resettlement planning and implementation processes to re-assess those households' vulnerability. Such visits will occur at least once a quarter; and each visit will be recorded in the database flagging changes to indicators that are problematic.

### **Indigenous people engagement**

Projects may impact social or cultural groups recognised as Indigenous Peoples, either by national legislation or according to their own identification as members of a distinct cultural group with collective attachment to geographically distinct habitats or ancestral territories; customary cultural, economic, social or political institutions separate from the dominant society or culture; and an indigenous language – often different from the official language of the country. It is often the case that Indigenous Peoples are more impeded than other groups in their capacity to cope with project impacts and to retain sufficient access to the cultural and material resources that they require to survive and sustain their livelihoods.

AfDB acknowledges the existence of marginalized and vulnerable segments of societies in Africa. Emphasis is placed on assessing, supporting, and monitoring vulnerable groups through targeted means, measures, and modalities in Bank-financed operations. However, the AfDB is a regional Bank operating on a continent with unique socio-cultural realities. “Ethnicity” and “indigenous persons” are extremely contentious terms given social, cultural, and political contexts and realities across Africa. For this reason, the Bank emphasizes issues inclusion for the vulnerable in its operations. This is because Vulnerability is a core social concern cutting across all facets of African societies.

The ISS primarily treats Indigenous People as a special case of vulnerable groups. Emphasis and approach on vulnerable groups in the ISS are premised on the Bank's experience in implementing its several E&S standards, policies, and guidelines. The intention is not to focus exclusively or heavily on one group, such as Indigenous People, but encompassing a wider range of groups that can be impacted by its operations. Issues concerning Indigenous Peoples are addressed by integrating a number of essential social safeguard principles consistent with the general guidelines adopted by the MFI-Working Group on the Environment. These include: broad community support, consideration of community impacts, vulnerable groups (including minorities, women, Indigenous People and cultural heritage); adoption of free, prior and informed consultation, establishment of genuine grievance and redress mechanisms at the

project level, protection of Indigenous Peoples and other local communities from infringements that erode their rights over their property, addressing socio-cultural issues, protection of the rights of local communities in using their natural resources, including land in a sustainable manner and use of indigenous knowledge.

The African Development Bank's Integrated Safeguard System (ISS) has carefully consulted with "African stakeholders large to design and incorporate adequate provisions for Indigenous Peoples for three inter-related reasons:

1. Indigenous Peoples are a vulnerable group that warrants special attention. Indigenous Peoples are typically more vulnerable to economic and social marginalization, exploitation or exclusion. For these reasons, special attention in terms of consultations, appropriate and differentiated support shall be provided to help Indigenous Peoples cope with their resettlement and to improve their livelihood status, in line with national laws.
2. Providing opportunities for Indigenous Peoples are integral to the Bank's strategy of inclusive growth. Inclusive growth is growth that is shared by everyone, especially the most vulnerable. For this reason, the Bank aims to understand the particular needs of indigenous people, in order to be able to promote and defend their welfare and ensure that the benefits of growth are shared with them equally.
3. Consistency with the approach adopted by other MDBs and Financial Institutions. Although the Multilateral Finance Institutions have adopted a Common Framework on Environmental Assessments, there is a variation in the way that these Institutions address the issues of indigenous peoples. The AfDB, UNDP, EIB, and EBRD have mainstreamed Indigenous Peoples into their Safeguards System, while the World Bank, the Asian Development Bank and Inter-American Development Bank have standalone safeguards policies.

#### **Indigenous groups: differentiated measures**

In the context of Indigenous Groups, differentiated measures shall be required to ensure the protection of their interests and practices, and their equitable access to opportunities to benefit from project operations. Such differentiated measures may include the following:

- Development of mechanisms for consultation that ensure that sufficient time is provided for the Indigenous Group's traditional decision-making processes.
- Employment of intermediaries such as specialist NGOs who have expertise in working with the Indigenous Group, and in elucidating their concerns, needs and how to address these.
- Definition of goals for the development of Indigenous Groups and design of an ICDP using a results-based framework.

The Bank shall take a development approach by deliberately designing and promoting interventions which should achieve the greatest possible reduction of poverty among affected Indigenous Groups through an ICDP.

ICDPs should be prepared for projects that have clear risks for Indigenous Groups, which need to be mitigated. Specific risks associated with land, resettlement or environmental damage, shall be integrated into the ARAP or the ESMP and support measures should be designed and managed in consultation with them to respect their cultural preferences.

### **Consultations related to involuntary displacement**

The primary goal of the involuntary resettlement policy of the African Development Bank (AfDB, or the Bank) is to ensure that when a Bank intervention requires people to be displaced, they are treated equitably and share in the benefits of the project that involves their resettlement, improving their living standards. The ISS provides guidance to Bank staff and to borrowers and sets up a mechanism for monitoring the performance of resettlement programmes. Most importantly, the ISS requires that a Resettlement Action Plan (RAP) or Abbreviated Resettlement Action Plan (ARAP) be prepared under a development approach that addresses the livelihoods and living standards of displaced persons as well as compensation for loss of assets, using a participatory approach at all stages of project design and implementation. As highlighted before, the project is expected to have minimal displacement and thus only ARAP is anticipated to be used to address issues of involuntary displacement.

The policy provides for the displaced persons and host communities to be meaningfully consulted early in the planning process and encouraged to participate in the planning and implementation of the resettlement program. The displaced persons should be informed about their options and rights pertaining to resettlement. They should be given genuine choices among technically and economically feasible resettlement alternatives. In this regard, particular attention should be paid to the location and scheduling of activities. In order for consultation to be meaningful, information about the proposed project and the plans regarding resettlement and rehabilitation must be made available to local people and national civil society organizations in a timely manner and in a form and manner that is appropriate and understandable to local people. As well, careful attention should be given to the organization of meetings. The feasibility of holding separate women's meetings and fair representation of female heads of households, in addition to mixed meetings, should be explored. Also, the way in which information is disseminated should be cautiously planned as levels of literacy and networking may differ along gender lines;

Particular attention should be paid to the needs of disadvantaged groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, and ethnic, religious and linguistic minorities; including those without legal title to assets, female-headed households. Appropriate assistance must be provided to help these disadvantaged

groups cope with the dislocation and to improve their status. Provision of health care services, particularly for pregnant women, and infants, may be important during and after relocation to prevent increases in morbidity and mortality due to malnutrition, the psychological stress of being uprooted, and the increased risk of disease;

**Stronger provisions for vulnerable groups:** The AfDB's IR policy has a broader definition of vulnerable groups than do the policies of comparator institutions. For instance, it requires that particular attention is paid to the needs of disadvantaged groups, and it provides safeguards for land quantity, quality, and tenure. Furthermore, it requires a full resettlement plan for any project that has adverse impacts on disadvantaged groups or ethnic, religious and linguistic minorities, or that affects the poorest and most marginalized communities that do not have the capacity to absorb such impacts.

**Unit of compensation:** AfDB policy clearly defines the unit of compensation as including the family or household; it may include the entire community if the project affects communal resources.

**Compensation cost:** The AfDB IR policy highlights the procedures for expropriation and compensation at full replacement cost for land and property. It requires that compensation payments are independently monitored and accurate records of all transactions kept.

The Bank will support borrower's efforts on projects involving involuntary resettlement through i) assistance to the executing agencies to adopt and operationalise objectives and principles of this policy; ii) assistance in formulating and implementing resettlement policies, laws, regulations, specific plans and strategies; and (iii) direct financing of the investment costs of resettlement.

The Bank will also support the capacity building, as required of executing agencies to plan and implement involuntary resettlement in all projects and provide technical assistance to strengthen the organizational, managerial and implementation capacity of agencies responsible for resettlement including strengthening the environmental, social, economic and technical expertise of these agencies. The Bank will also finance eligible costs for resettlement. Bank financing of resettlement can thus be provided as a component of the project involving displacement and requiring resettlement.

### **Grievance redress mechanism (GRM)**

The AfDB defines project GRM as a systematic process for receiving, evaluating and facilitating resolution of affected people's project-related concerns, complaints and grievances about the borrower's/client's social and environmental performance on a project. AfDB requires its clients to be aware of and respond to stakeholders' concerns related to the project in a timely manner.

For this purpose, the client will establish an effective grievance mechanism, process, or procedure to receive and facilitate resolution of stakeholders' concerns and grievances, in particular, about the client's environmental and social performance.

In OS 1, the Bank requires the borrower/client to establish a "credible, independent and empowered local grievance and redress mechanism to receive, facilitate and follow up on the resolution of the affected people's grievances and concerns regarding the environmental and social performance of the project. The local grievance mechanism needs to be sufficiently independent, empowered and accessible to the stakeholders at all times during project cycle and all responses to grievances shall be recorded and included in project supervision formats and reports."

Some Bank operations may inevitably have the potential to impact the local population's well-being. The aim of a project GRM is, therefore, to enable people fearing or suffering adverse impacts to be able to be heard and assisted. People potentially or actually affected by a Bank-funded project need a trusted way to voice and resolve project related concerns, and the project needs an effective way to address affected people's concerns. The GRM provides a structured and managed way of allowing the concerns of affected people to be heard and addressed, including by the borrower's/client's project management staff and, in certain circumstances, by Bank staff.

The main advantages of establishing and maintaining an appropriate GRM linked to a Bank-funded project are:

- Helping maintain good development conditions in the field, conducive to harmonious, sustainable development.
- Minimising the risk of violent or otherwise destructive behaviors, and the associated economic and social costs.
- Helping to protect the most vulnerable local groups and individuals.
- Alleviating the risk of dispute or conflict escalation, such as cases being brought to the Bank's Independent Review Mechanism.

The process by which the GRM is designed should be integrated into the overall approach to project preparation as prescribed in the Bank's ISS. The Bank ISS through its (IESIA) Guidelines Notes provides guidance on development and Implementation of GRM. It should also be included in the concrete actions required in the Environmental and Social Management Plan (ESMP) for Category 1 projects and, on a case by case basis, for Category 2 projects that exhibit specific potential social tensions, in particular risks of mismanagement of compensation/resettlement schemes or the presence of particularly vulnerable groups in the project's area of influence.

AfDB has also established its own accountability mechanism, the Independent Review Mechanism (IRM). The IRM seeks to assess whether a Bank approved project complies with relevant the AfDB's ISS. The IRM makes itself accessible to any group (a minimum of 2 persons living in the project's area of influence) actually or potentially negatively affected by a Bank-funded project. The IRM reports to the Bank's Board of Directors and is thus independent of Bank management. So far, the IRM has received approximately six requests for intervention. Based on the World Bank's Inspection Panel experience, dating back to 1993, which has processed 80 requests since then, the IRM is likely to intensify its activities during the coming years.

The IRM has been set up by the Bank to achieve more transparency. It is also a costly mechanism to trigger. The establishment of local GRMs can help to alleviate the need for plaintiffs to resort to the IRM, while problem-solving can be more rapidly and cost-effectively done locally. The cultural context in which GRMs operate also helps to defuse complaints and to find appropriate and commensurate solutions.

### **GRM at project level**

The GRM in the AfDB-GCF programme will be established under the guidance provided in the ISS Bank ISS through its (IESIA) Guidelines Notes. The first step is to determine the primary goal of the GRM which would generally be to resolve specific grievances in a manner that meets both project management and community needs, but with important local variations. The scope of the grievances that may legitimately be brought forward by the communities and/or individuals affected shall be defined in advance. That scope will generally cover most, if not all, of the issues raised in a typical Environmental and Social Assessment: natural resources, pollution, cultural property, land acquisition, the income of resettled/displaced populations, the welfare of vulnerable groups, etc.

The second step is to design the GRM by:

- Preparing a preliminary design.
- Selecting ways and means to receive, register, assess and respond to grievances.
- Select grievance resolution approaches.
- Design a means to track and monitor grievances.
- Develop the grievance mechanism infrastructure.
- Review and refine the design.

The design of GRM may be done with the assistance of the specialized Independent consulting team (if resources will be available). The GRM shall be designed based on the following principles:

- Involvement of individuals of mixed levels and functions from the entity (e.g., operations, environmental affairs, community relations, legal affairs, contractors). Staffing the design team from just one function such as community relations or human resources is unwise.

- The inclusion of a balanced group of representatives from the community, representing the range of constituencies and demographics that will be using the grievance mechanism, while keeping the team small enough to be responsive.
- GRM Relying upon clear terms of reference and a work plan that outlines team goals, roles, and responsibilities, level of decision-making authority, reporting lines, tasks, time frame, and products.
- Making the use of multiple channels (e.g., face to face, phone conversation, mail, text or e-mail, message on a dedicated website), sensitive to cultural customs and traditional methods that may influence or impede the expression of grievances.
- The existence of a central point of contact that will receive complaints and log them into a central register.
- Existence and operation of designated complaint resolution staff.
- Processes for acknowledging the receipt of a grievance and informing the complainant about the time frame in which a response can be expected.

### **Appointing members of Grievance Redress Committees (GRC)**

The AfDB-GCF program will involve the formulation of Grievance Redress Committee (GRC) at project level, i.e. GRM staff, for handling grievances. Generally, all project staff, the management staff of agencies involved in the project, and government administrators will take on grievance handling as a responsibility. The GRM members should be qualified, experienced, and competent personnel who can win respect and confidence of the affected communities. It is also important to maintain a gender balance within the GRMs. Criteria for selecting members of GRMs could include the following:

- Knowledge of the project, its objectives, and outcomes
- Technical knowledge and expertise to understand project design and requirements;
- Understanding of the social, economic, and cultural environments and the dynamics of the communities;
- Capacity to absorb the issues dealt with and to contribute actively to decision-making processes;
- Social recognition and standing; and
- equitable representation of males and females.

The GRC at project level shall constitute among other members, an officer from the Local Government Authority, e.g. Provincial Environmental Officer, Project Coordinator, a member from a recognized Non-Government Organization and a community representative. The GRC shall have the right to request the project technical staff, and officers from relevant state or non-state institutions to attend the meetings and provide information. A complainant has the right to appear in person, to be accompanied by a community member, and/or to request to be

represented by a community elder. GRCs shall be established at the project level to assure accessibility for APs.

### **Procedures, complaints channels and time frame for Grievance Redress Mechanisms**

As there is no ideal model or one-size-fits-all approach to grievance resolution, the best solutions to conflicts are generally achieved through localized mechanisms that take account of the specific issues, cultural context, local customs, and project conditions and scale. The process by which a complaint will be accepted or rejected needs shall be carefully designed, and shall maximise interactivity and cultural sensitivity. The acceptance/rejection of a complaint will go through a discussion stage where the plaintiff and the **GRM staff** interact on the grounds and motives of the complaint, after which the plaintiff should clearly and transparently be told whether or not the complaint is eligible and will be processed. The acceptance/rejection of the complaint shall be based on objective criteria that are posted by the GRM, including a written copy displayed in the public access area of the GRM in an appropriate language.

The processing of the complaint, if accepted should go through various phases:

- Filing of the complaint and labeling with an identification code communicated immediately to the plaintiff.
- Assessment of the complaint (including severity of the risk/impact).
- Formulation of the response.

Selection of the grievance resolution approach is a key. There are four general approaches to choose from:

- The project's management proposes a solution.
- The community and the project's management decide together.
- The project's management and the community defer to a third party to decide.
- The project's management and the community utilize traditional or customary practices to reach a solution.

The Bank ISS recommends the application of a "Decide together" approach that is usually the most accessible, natural and unthreatening ways for communities and a project's management to resolve differences. With the potential to resolve perhaps the majority of all grievances, "decide together" should be the center-piece of any grievance mechanism's resolution options.

In its simplest form, a grievance mechanism can be broken down into the following primary components:

- Receive and register a complaint.
- Screen and validate the complaint (based on the nature and type of a complaint).
- Formulate a response.



- Select a resolution approach, based on consultation with affected person/group.
- Implement the approach.
- Settle the issues.
- Track and evaluate results.
- Learn from the experience and communicate back to all parties involved.

The time for the Grievance Redress Committees to be held shall be agreed and documented, depending on the nature and severity of the complaint.

A number of mechanisms will be available to aggrieved parties to access redress. These shall include institutions specific (internal) to a project and set up from its inception or others that might have emerged over time in response to needs identified while the project evolved. Other institutions which are already established within a country's judicial, administrative, and/or political systems and exist outside a project shall also be used. These include the government bureaucracy; judicial institutions; and political institutions such as District Councils, Provincial Councils, etc. In addition, the Bank itself sometimes shall provide a forum for grievance redress. GRMs shall include avenues for resolving conflicts between APs or other stakeholders and can provide information sought by the public on the project.

The channels of presenting complaints could include the presentation of complaints via third parties (e.g., village elites/traditional leaders, community-based organizations, lawyers, non-government organizations [NGOs], etc.); face-to-face meetings; facsimile, telephone, and email communications; written complaints; etc.

The sub-projects to be implemented under AfDB-GCF program are expected to be small in nature with relatively straightforward issues. Therefore, simpler means of addressing complaints, such as through community meetings, community liaison personnel and suggestion boxes allowing for anonymity shall also be used along with other recommended channels.

A sample Grievance form to be filled is presented on annex 8.

If the complainant is not satisfied, the complainant will have to appeal to the National Project Coordinator under UCM or Executive Director of GEEC.

### **Suggested Stakeholders' engagement**

A Stakeholder Engagement Plan is necessary to ensure that stakeholders are kept well informed about the project throughout its lifecycle. Stakeholders should have the opportunity to express their views about the project and also to raise complaints.

In order to assure proper implementation of such a stakeholder engagement plan, it is strongly recommended defining roles and responsibilities of the entity that will handle this program. Therefore, UCM will be responsible for implementing stakeholder engagement activities within the established engagement plan. The unit should have a Liaison Officer who will be responsible for communication with the community and a social Development Officer who will be assigned to handle the grievance and redress mechanism. Sample of stakeholder engagement plan has been presented in annex 7.

The following are recommendations to be considered in deciding approach towards stakeholder engagement:

#### **Recommendation 1:**

The UCM via Environmental and social safeguards officers will need to carry out stakeholder engagement activities as one of its main tasks. It should assign a Community Liaison Officer who will be responsible for communication with the community. A social Development Officer should also be assigned to handle the grievance and redress mechanism.

#### **Recommendation 2:**

In full cooperation with community representatives' committee which should be set up with the various community groups, the Community Liaison Officer should share information and respond to inquiries in a monthly meeting. This would result in:

- Facilitating access to information on the project through conducting informal meetings with the community members regularly;
- Informing stakeholders of on-going communications and meetings;
- Informing stakeholder about project progress, issues to expect, construction time table etc.;
- Providing feedback from stakeholders on issues that have been raised through having an active channel with UCM.

#### **Recommendation 3:**

Additionally, separate focus group meetings should be conducted with women, young people and vulnerable groups in order to be able to voice their concerns and worries. Posters and leaflets about the project and an agreed contact person would need to be published in the main streets of the village, the market place and in the vicinity of the power plant. Women-oriented NGOs

should be engaged in order to cooperate with them to pass information in simple dialect to poor marginalized women. Young people could be reached via informal meetings in the Youth gathering centres.

**Recommendation 4:**

It is proposed that the all sub-projects/Mini-grids operators to form project management units (UCM) which include the Environmental and social personnel, Community liaison officer to carry out the following:

- Raise workers' awareness about: Environmental management on site and H&S requirements
- Grievance mechanism for project affected people
- Establish information sharing channels
- Provide information to the community about the construction program and timing.
- Inform directly affected stakeholders in advance of construction works

Initiate disclosure of the relevant EA studies, SEP and ESMP reports on the website of the Ministry of Energy and Project financiers. This is aimed at having information available for the village community and all other stakeholders and interested groups. Regarding the illiterate people, they should be informed about the main contents of the reports through meetings with the community leaders and UCM.

The following table summarizes specific suggested actions.

**Table 6: Summary of suggested stakeholder engagement**

Target Stakeholder	Information to be disclosed	Time frame	Communication / media tool	Related Documentation	Stakeholders feedback
<b>Preconstruction and construction phase</b>					
Project Contractors/ construction workers for each sub-project	Introduce the Environmental management plan, Introduce H&S requirements Grievance mechanism for workers Information sharing channel	From commencement of project activities	Induction training information to all workers.  Regular bulletin disclosed on site; tool box talks; induction information for new workers	SEP, ESMP and Monitoring reports; Health and safety instructions; Labour rights	Workers can lodge grievances at any time during their employment on the project site.  Any feedback and grievances (and response to grievances) by workers should be documented
Developer Project management unit and employees	Construction program and timing; Communication channels and practices Grievance mechanism allocated for workers	From the commencement of project activities	Internal bulletins; Regular intranet and email updates	SEP, ESMP; Monitoring reports	Workers can lodge grievances at any time during their employment on the project site.  Any feedback and grievances (and response to grievances) by workers should be documented
villagers and young people	Project schedules	From the commencement	Regular community meeting/s as	EA studies, SEP, ESMP; Traffic	Stakeholder requests (and response given) Should be documented

	<p>provided to directly affected stakeholders to notify them in advance of construction works</p> <p>Disclosure of the EA studies, SEP and ESMP reports on the website of the Ministry of Energy and funding agencies.</p>	<p>of project activities</p>	<p>required or Monthly at the beginning and later quarterly Meetings.</p> <p>Additional information on the Ministry of Energy websites</p>	<p>Management Plan; Monitoring Plans; Safety procedures; Employment opportunities</p> <p>Grievance Procedure; Progress of ESMP</p>	
	<p>Project opportunities available and required skills</p>	<p>Once prior to construction phase</p>	<p>Posters to be broadcast in the main streets and market area, as well as the entrance of the sub-projects construction sites;</p>	<p>Lists of jobs to be provided by the contractors together with required specifications</p>	

			An inventory of job opportunities available should be disclosed to people on the Ministry of Energy websites.		
	Grievance and redress mechanism	Prior to construction activities and during the construction	Posters in main streets and market area, as well as the entrance of the Mini-Grid facilities construction sites	Grievance and redress mechanism in the relevant ESA studies	All grievances received should be documented, analyzed
Other interested stakeholders	Project progress; performance on environmental and social issue management; and new activities	Prior to the construction and during operation	Direct communication through individual meetings, additional public consultation activities (as required) and Community Panel	Fact sheets; Monitoring results (progress against ESMP); Employment opportunities	Meetings and initiatives should be documented

			meetings (Quarterly)		
<b>Operation Phase</b>					
Community	Update of operational performance, and ongoing communication on key issues.	After operation commencement	Regular community meeting/s as required or Quarterly	Monitoring Plans; Grievance Procedure, Capacity building/awareness issues	
Project workers for Mini-grids facilities	Environmental management plan, and grievance mechanism; H&S requirements; Grievance mechanism allocated for workers and information sharing channel	After starting operation	Induction training information to newly recruited worker workers.  Regular bulletin disclosed in the site, tool box talks, induction information for new workers	SEP, ESMP and Monitoring reports Health and safety Measures Labour rights	Workers can lodge grievances at any time during their employment on the project site. Any grievances (and response given) to be documented
Projects management and employees	construction program and timing; communication issues related to operations	From the commencement of Project activities	Internal letters Regular intranet and email updates	SEP, ESMP Monitoring reports	Workers can lodge grievances at any time during their employment on the project. Any grievances (and response given) to be documented

	grievance mechanism allocated for workers				
Provincial, MDAs Offices, Local Authority and Other interested stakeholders (Some industrial parties)	Update on operational performance, and ongoing communication on key issues.	During operation	Direct communication through individual meetings; public consultation activities (as required); Community Panel meetings (Quarterly)	Monitoring results Progress against ESMP; Employment opportunities	Meetings and comments to be documented



## **Suggested Framework for Disclosure of Information**

As highlighted in the previous sections, the Bank requires that consultation shall be considered an ongoing process, not just as a step in the procedures for obtaining project approval. It shall begin at the project identification stage, or at least at an early stage during project preparation, and shall continue throughout the life of the project through to construction, operation and decommissioning. As the Bank recognizes local requirements in addressing E & S considerations, stakeholders' consultation and engagement will also incorporate the national requirements as prescribed in DRC Environmental legislations.

The client and the Bank will make available to the public the ESIA documents. The procedures require the public disclosure of summaries in accordance with specified deadlines. All category 2 operations shall be disclosed for 30 days before Board deliberations.

Apart from disclosing information of Environmental assessment studies. Other information which directly touches the concerns of different ranges of stakeholders will also be disclosed. The mechanism of information dissemination should be simple and be accessible to all. The program will use two mechanisms which include briefing material and organization of community consultation sessions. The briefing material (all to be prepared in local language) can be in the form of (a) brochures (including project information, land requirements and details of entitlements including compensation and assistance to be given to the PAPs) that can be kept in the offices of local Government and Ministry of energy; (b) posters to be displayed at prominent locations and (c) leaflets that can be distributed in the impacted zone of the sub project.

Consultation meetings should also be organized at regular intervals by UCM to acquaint the PAPs of the following:

- i. Timeline and progress of the project;
- ii. Information on compensation and entitlements;
- iii. Information on land acquisition and market valuations of property;
- iv. Time line for acquisition.

Disclosure of information will enhance governance and accountability specifically with respect to strengthening of monitoring indicators to help the AfDB monitor compliance with the agreements and assess impact on outcomes.

In accordance with AfDB ISS, the project management should ensure disclosure of relevant project information including:

- the purpose nature and scale of the project
- the duration of proposed project activities
- any risks to and potential impacts with regard to environment, worker health and safety, public health and safety and other social impacts on communities, and proposed mitigation plans
- the envisaged consultation process, and opportunities and ways in which the public can participate

- time/venue of any envisaged public meetings, and the process by which meetings are notified, summarized, and reported.

Information is to be disclosed in the local language(s) and in a manner that is accessible and culturally appropriate, taking into account any vulnerable people (for example ethnic groups or displaced persons). The following describes the proposed arrangement.

#### **During the planning phase**

The project should have good access to media, all news regarding work at sub-project areas should be disclosed to the public through national and local media, including state owned etc.

Additionally, the social media should be used to publishing news related to the project in the two regions. To facilitate effective public information, a technical officer should be assigned to communicate with people and provide information on the site.

#### **During the construction phase**

During construction, UCM should provide ongoing information to the people within project areas and surrounding areas. Information should relate to planned, unplanned and ongoing construction activities. This could include safety measures in the vicinity of the construction sites, traffic management, employment opportunities, opportunities for service provision (for example, catering, laundry services, etc.) and any other information identified through the development of the ESMP. This information could be provided in a range of ways including:

- Monthly meeting with the Community Representative Committee
- Face-to-face meetings, which could involve the whole community or smaller focus groups.
- Written updates posted at the local school;
- Via the Community Committee; and
- Annual project progress reports, including environmental and social impacts, health and safety performance, and implementation of the external grievance mechanism.

#### **During the project operation phase**

During operation, UCM and proponents for individual sub-projects/Mini-grid operators should continue providing information on the project as necessary. This could focus on monitoring of operational impacts such as emissions, and any issue raised by stakeholders during the earlier phases of the project.

#### **Suggested Grievances and Redress Mechanism disclosure**

Grievances may arise during the construction and operation of the sub-projects, addressed to an individual Project or the whole program as a whole. To ensure that stakeholders have an easy mechanism for making their grievances known, and to get redress, detailed grievance procedures need to be established. The objective is to respond to the complaints of stakeholders in a timely and transparent manner, without resorting to complicated formal channels as far as possible.

It is proposed that anyone should be eligible to submit a grievance about the project if they believe a working practice or aspect of the project is having an adverse impact on the community, the environment, or on their quality of life.

## **CAPACITY BUILDING**

The project will include assessment the AfDB clients' capacity to implement the ESMF and other aspects of renewable energy. Based on a preliminary assessment done, the AfDB-GCF Framework will entail a Technical Assistance component as capacity building initiative for ensuring successful deployment of the program and enhance the capacity of the DRC Government and other Implementing entities dealing with RE Investments.

The Technical Assistance aims at supporting all project key players i.e. the Ministry of Energy and Hydraulic Resources, Ministry of Environment, Conservation of Nature and Tourism, SNEL, ARE/ANSER, Local Government Institutions etc. – to contribute to developing sustainable energy access and transforming the important renewable energy generation opportunities across DRC.

The Technical Assistance component will address key barriers to private investment in the development of renewable energy projects and also streamlining the process for deploying RE and strengthening capacity among key sector players. The capacity building programme will seek to provide to the key actors, the necessary instruments and skills to deploy Mini-grids faster and better. This will include the development of mini-grid connection guidelines, investor guidelines and the organization of training and workshops on economic, financial, tariff, AfDB ISS, Environmental and Social Assessments (Including Resettlements aspects and other associated studies related to Operational Safeguards) and technical (grid integration, grid management) aspects of Mini-grids.

The ministry of energy has its Coordination and Management Unit (UCM) which will be responsible for overall coordination and management of the Mini-grid programme. For effective implementation of the ESMF, there will be need for technical E&S capacity in the human resource base of the UCM as the main implementing Agency, other Implementing entities working together with the Ministry of Energy/UCM as well as key private sector entities responsible for implementation of activities under project components. 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 the sub-projects. It will also be important to ensure that UCM has sufficient capacity and systems for effective oversight of the fairly complex processes for E&S risk management with multiple parties involved.

Given the nature of the environmental and social management requirements and provisions outlined in this ESMF, competencies and capacity building to enhance the respective roles and collaboration of the relevant stakeholders will be required in the following areas:

- Environmental Assessment Process - Screening, scoping, impact analysis, mitigation measures and monitoring, Public participation techniques and stakeholders' engagement, including public awareness creation / educational techniques (on environmental, social and health issues), reviewing ESIA Reports;
- Environmental Due Diligence - Types of due diligence, screening projects for liabilities, scoping due diligence investigations and reviewing due diligence reports;
- Monitoring and Evaluation - E&S management planning and monitoring systems. impact assessment tools, monitoring tools and activities, understanding the importance of M&E in

project implementation, M&E requirements for environmental and social sustainability of projects;

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 sub- projects. The four E&S capacity building activities categories are:

- E&S capacity building for Ministry of Energy/UCM
- E&S training and support to mini grid developers
- Training that empowers stakeholders' engagement

### **E&S Capacity Building for Ministry of Energy/UCM**

This will support developing UCM'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.

The Ministry of Energy through UCM and other relevant Agencies e.g. ANSER, 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.

Sample capacity building options for UCM 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.

### **Capacity building for GEEC**

There is a need of upgrading the knowledge of all its staff on the application of environmental and social provisions especially the requirements of AfDB ISS. Institutional strengthening is also needed for GEEC to enhance its capacity to provide effective enforcement and follow-up on compliance regarding E & S mitigation measures developed for the sub-projects.

### **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

or 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. 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 fulfil UCM '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.

### **Trainings that Empowers Stakeholders' Engagement**

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

The target audience of such training activities include, but not limited to: Local Government Authorities (Officers, Chancellors), people who 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 etc.

The activities here are proposed to address the following:

- Initial reservation in the adoption of a new technology for communities and households
- 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.
- E & S impacts, Vulnerability aspects

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 UCM. Table 7 below summarises the technical assistance aspects for the programme.

**Table 7: Technical assistance aspects for the programme**

Sub-component	Key activities
1. Green mini-grid enabling framework and capacity building	<ul style="list-style-type: none"> <li>(i) Develop green mini-grid strategy and regulations</li> <li>(ii) Develop mini-grid standards and guidelines</li> <li>(iii) Establish green mini-grid tariff guideline</li> <li>(iv) Train key institutions to be able to manage and implement green mini-grid projects development (including E &amp; S aspects) (UCM, MERH, GEEC, ANSER and benefiting provincial governments)</li> <li>(v) Train selected project developers on green mini-grid projects development and management (including E &amp; S aspects)</li> </ul>
	<ul style="list-style-type: none"> <li>(vi) Train local technicians and SMEs for operations and maintenance of green mini-grid</li> <li>(vii) Gender action plan implementation</li> </ul>
2. Green mini-grid project development support	(i) Support three solar based mini-grids under the Essor A2E program (detailed technical studies and legal cost)
	(ii) Conduct feasibility studies for other selected potential green mini-grid sites (up to five)
	(iii) Develop an investment and tender plan for UCM's green mini-grid pipeline

## **ANNEXES**

- Annex 1. Templates for environmental and social management instruments
- Annex 2: Performance Requirements, Exclusions, Compliance with Relevant Laws and Regulations, criteria for siting the Mini-grids
- Annex 3: Summary of the Integrated Environmental and Social Impact Assessment (IESIA) Guidance Notes
- Annex 4: List of stakeholders consulted during the preparation of the ESMF
- Annex 5: Gender Mainstreaming and Vulnerability Assessment
- Annex 6: Generic E & S Mitigation measures
- Annex 7: Sample Stakeholder Engagement Plan
- Annex 8: Sample Grievance Form
- Annex 9: Waste and Batteries Disposal Management Approach
- Annex 10: Resettlement Policy Framework

## GLOSSARY

AfDB	African Development Bank
ANSER	Agence Nationale des Services Energétiques Ruraux (The National Agency for the Electrification of Rural and Peri-urban areas)
ARAP	Abbreviated Resettlement Action Plan
ARE	Autorité de Régulation de l'Electricité, (The Electricity Regulatory Authority)
BCS	Broad Community Support
CSP	Country Strategy Paper
DFI	Development Financial Institution
DPEME	Department in Charge of the Protection of the Mining Environment
DRC	Democratic Republic of Congo
E&S	Environmental and Social
EHS	Environment Health and Safety
EIE	Etudes d'Impact Environnemental (Environmental Impact Studies)
ESA	Environmental and Social Assessment
ESAP	Environmental and Social Management Action Plans
ESAPs	AfDB Environmental and Social Assessment Procedures
ESCON	Environmental and Social Compliance Note
ESCR	Environmental and Social Completion Report
ESFR	Environmental and Social Final Report
ESIA	Environmental and Social Impact Assessment
ESIS	Environmental and Social Impact Studies
ESMF	Environmental and Social Management Framework
ESMF	Environmental and Social Monitoring Form
ESMP	Environmental and Social Management Plan
ESMPs	Environmental and Social Management Action Plans
ESMS	Environmental and Social Management Systems
ESS	Environmental and Social Scoping
ESSF	Environmental and Social Screening Form
ESSM	Environmental and Social Scoping Memorandum
Essor A2E	Essor Access to Electricity
FI	Financial Intermediary
FRAP	Full Resettlement Action Plan
GCF	Green Climate Fund
GECL	General Counsel and Legal Services Department
GEEC	Groupe d'Etudes Environnementales du Congo
GHGs	Green House Gases
GoDRC	Congolese Government
GRM	Grievance Redress Mechanism
HFO	Heavy Furnace Oil
HIV-AIDS	Human Immunodeficiency Virus-Acquired Immune Deficiency Syndrome
ICCN	Institut Congolais pour la Conservation de la Nature
IDEV	Operations Evaluation Department
IESIA	Integrated Environmental and Social Impact Assessment
IFC	International Finance Corporation
IFIs	International Finance Institutions
IPDP	Indigenous People Development Plan
IPPs	Independent Power Producers
IPRR	Implementation Progress and Results Report
IRM	Independent Review Mechanism
ISS	Integrated Safeguards System



ISTS	Integrated Safeguards Tracking System
LV	Low Voltage
MDB	Multilateral Development Bank
MENCT	Ministry of Environment, Nature Conservation and Tourism
MERH	Ministère de l’Energie et des Ressources Hydrauliques, (Ministry of Energy and Hydraulic Resources)
MoEM	Ministry of Energy and Mines
NDC	Nationally Determined Contributions
OPSM	Operations of Private Sector and Microfinance
ORQR.3	Compliance and Safeguards Division
OS	Operational Safeguard
OSs	Operational Safeguards
PAR	Project Appraisal Report
PBO	Program-Based Operation
PCN	Project Concept Note
PCR	Physical and Cultural Resources
PCR	Project Completion Report
PEN	Preliminary Evaluation Note
PIC	Public Information Centre
PS	Performance Standard
RAP	Resettlement Action Plan
RCM	Request for Categorization Memorandum
RE	Renewable Energy
RISP	Regional Integration Strategy Paper
RMC	Regional Member Country
RPF	Resettlement Policy Framework
SEFA	Sustainable Energy Fund for Africa
SESA	Strategic Environmental and Social Assessment
SIA	Social Impact Assessment
SNEL	Société Nationale d’Electricité
SPV	special purpose vehicles
STIs	Sexually Transmitted Infections
TA	Technical Assistance
TOR	Terms of Reference
UCM	“Unité de Coordination et de Management”
VCM	Validation of Categorization Memorandum
WBG	World Bank Group

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## ANNEX 1: TEMPLATES FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT INSTRUMENTS

### Annex 1a: Environmental and Social Screening Form

#### PART A: GENERAL INFORMATION

Project Name	
Estimated Cost ( )	
Project Site	
Project Objectives	
Proposed Main Project Activities	
Name of Evaluator/s	
Date of Field Appraisal	

#### PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

--

Provide information on the type and scale of the construction/rehabilitation activity (e.g., area, land required and approximate size of structures)

Provide information on the construction activities including support/ancillary structures and activities required to build them, e.g., need to quarry or excavate borrow materials, water source, access roads, etc.

Describe how the construction/rehabilitation activities will be carried out. Include a description of support/activities and resources required for the construction/rehabilitation.

#### PART C: SCREENING FORM FOR IDENTIFICATION OF AfDB OSs AND IFC PS TRIGGERED AND IDENTIFICATION OF APPROPRIATE SAFEGUARD INSTRUMENT

AfDB OSs/IFC Performance Standard	Triggered		If YES (Reason/details)	Safeguard Instrument/Document Needed
	YES	NO		
OS1/ PS1,				
OS2/ PS5				
OS3/ PS6				
OS4/ PS 3				
OS5/ PS 4, PS 2				
OS 1/PS 7				
OS 1/PS 8				

*Guidance: The guidance for subproject categorization and triggering OSs is available in the AfDB ESAP document (Annex 2 with Special focus on the Environmental and social screening checklist)*

## Conclusion and Safeguards Instruments Required

The subproject is classified as a Category \_\_\_\_\_ project as per AfDB's ESAP, and the following safeguard instruments will be prepared:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## PART D: ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION OF THE SUB PROJECT SITE BRIEF DESCRIPTION

Category of Baseline Information	Brief Description
<b>GEOGRAPHICAL LOCATION</b> * Name of the Area * Proposed location of the project (Include a sitemap of at least 1:10,000 scale / or coordinates from GPS)	
<b>LAND RESOURCES</b> * Topography and Geology of the area * Soils of the area * Main land uses and economic activities	
<b>WATER RESOURCES</b> * Surface water resources (e.g., rivers, lakes, etc.) quantity and Quality	
<b>BIOLOGICAL RESOURCES</b> * Flora (include threatened/endangered/endemic species) * Fauna (include threatened/endangered/endemic species) * Sensitive habitats including protected areas, e.g. national parks and forest reserves	
<b>CLIMATE</b> * Temperature * Rainfall	
<b>SOCIAL</b> * Number of people potentially impacted * Type and magnitude of impacts (i.e., impact on land, structures, crops, standard of living) * Socio-economic overview of persons impacted	

**PART E: SCREENING CRITERIA FOR IMPACTS DURING SUBPROJECT IMPLEMENTATION, AREAS OF IMPACTS AND IMPACTS EVALUATION AND POTENTIAL MITIGATION MEASURES**

S/N	Areas of Impacts	YES/NO	Impacts Evaluation						Potential Enhancement or Mitigation Measures/Remarks
			Extent or coverage (on site, within 3-5km or beyond 5km)			Significance (Low, Medium, High)			
			On site	Within 3-5 km	Beyond 5km	Low	Medium	High	
1.0	Is this sub-project site/activity within and/or will it affect the following environmentally sensitive areas? (exclusion criteria)								
1.1	National Park and game reserve								
1.2	Wetland								
1.3	Productive traditional agricultural /grazing-lands								
1.4.	Areas with rare or endangered flora or fauna								
1.5	Areas with outstanding Scenery/tourist site								
1.6	Within steep slopes/mountains								
1.7	Dry tropical forest								
1.8	Along lakes, along beaches, riverine								
1.9	Near cultural heritage sites								
1.10	Within prime groundwater recharge area								
1.11	Within prime surface runoff								
1.12	Will the sub-project use international water sources?								
1.13	within cultural sites, graveyards, monuments								
2.0	Screening Criteria for Impacts during Implementation and Operation (Will the implementation and operation of the sub-project within the selected site generate the following externalities/costs/impacts?)								
2.1	Deforestation								
2.2	Soil erosion and siltation								
2.3	Siltation of watercourses,								

2.4	Environmental degradation from mining construction materials								
2.5	Damage to wildlife species and habitat								
2.6	Hazardous wastes, Asbestos, PCB's, pollution								
2.7	Nuisance - smell or noise								
2.8	Reduced water quality								
2.9	Increase in costs of water								
2.10	Soil contamination								
2.11	Long-term depletion of water resource								
<b>3.0</b>	<b>Will the implementation operation of the sub-project activities within the selected site generate the following socio- economic costs/impacts?</b>								
3.1	Loss of land/land acquisition for Human settlement, farming, grazing								
3.2	Loss of assets, property, houses, agricultural produce								
3.3	Loss of livelihood								
3.4	Require a RAP or ARAP								
3.5	Disruption of social fabric								
3.6	Interference in marriages of local people by workers								
3.7	Potential spread of STIs and HIV and AIDS, due to migrant workers								
3.8	Increased incidence of communicable diseases								
3.9	Health hazards to workers and								

	communities								
3.10	Conflicts over use of natural resources e.g. water, land, etc.								
3.11	Conflicts on land ownership								
3.12	Disruption of important pathways, roads								
3.13	Increased population influx								
3.14	Loss of income generating Capacity								



## Annex 1b: Environmental and Social Monitoring Report

# ESMR

## ENVIRONMENTAL AND SOCIAL MONITORING REPORT

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Project name: \_\_\_\_\_ E & S category: \_\_\_\_\_

Project manager: \_\_\_\_\_  
Sign

Evaluator: E & S expert: \_\_\_\_\_  
Sign

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### 1. Environmental and Social Effects

Summary of the environmental effects of the project predicted during project planning.

### 2. Environmental and Social Effects Observed in the Field Visit

Summary of the environmental effects observed in the field visit:

- Predicted effects and nature of observation; and
- Unpredicted effects and nature of observation.

People participating in the field visit:

Name	Institution	Charge	Sign

### 3. Compliance with the Environmental and Social Specification

Assessment of how the project is complying with environmental design specifications, including environmental protection and control, mitigation, and reimbursement and compensation measures if any.

### 4. Results of the Field Visit

Provide results of the evaluation of specific biophysical and socioeconomic effects, including deviations from baseline values if available.

### 5. Conclusions and Recommendations for Project Operation

Recommended adjustments to project operations if any, including rationale for the recommendations.

### 6. Conclusions and Recommendations for Monitoring Program

Recommended adjustments to the monitoring program, if any, including rationale for recommendations.

### 7. Other Observations, Recommendations, and Conclusions

## Annex 1c: Environmental and Social Final Report

# ESFR

## ENVIRONMENTAL AND SOCIAL FINAL REPORT

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Project name: \_\_\_\_\_ Env. & soc. category: \_\_\_\_\_

Project manager: \_\_\_\_\_  
Sign

Evaluator: Env & soc. expert: \_\_\_\_\_  
Sign

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### 1. Activities Realized

On (date) \_\_\_\_\_, the final review of the environmental and social aspects corresponding to the activity \_\_\_\_\_ was conducted to verify fulfilment of the mitigation measures proposed for the project, as well as to ascertain if other negative impacts have appeared during the period in which the activity took place. There was content the commission integrated by the following persons:

Name	Institution	Charge	Sign

### 2. Background

Capture case record including dates, a brief narration of the problem, and recommendations from previous opportunities.

### 3. Results of the Examination

Describe in detail the conditions in which the mitigation measures were developed, the grade of fulfilment, and current state, explaining when necessary reasons why measures have not been completed. Completing the table below will help visualize this information.

No.	Mitigation measures	Accomplishment			Time still needed to accomplish measures	Observations
		Yes	No	%		

### 4. Conclusions

Based on the examination, prepare conclusions regarding fulfilment of the mitigation measures and recommendations.

## **ANNEX 2: Performance requirements, exclusions, and compliance with relevant laws and regulations**

### **General**

AfDB requires its projects to meet Good International Practice related to environmental and social sustainability. To help clients and/or their projects achieve this, AfDB has defined specific Operational Safeguards (OSs) for key areas of environmental and social sustainability. AfDB has adopted the five (5) OSs, which are consistent with and mirror the overall structure, approach, and issue coverage of the other Multilateral International Financial Institutions requirements such as IFC's 2012 Performance Standards and World Bank Group. This principle is applied in ensuring that Good International practice is also addressed in the AfDB programmes.

### **Specific Operational Safeguards**

#### **The AfDB Operational Safeguards (OSs)**

The Bank has adopted five operational safeguards (OSs) including:

Operational Safeguard 1: Environmental and social assessment – This overarching safeguard governs the process of determining a project's environmental and social category and the resulting environmental and social assessment requirements.

Operational Safeguard 2: Involuntary resettlement land acquisition, population displacement, and compensation – This safeguard consolidates the policy commitments and requirements set out in the Bank's policy on involuntary resettlement.

Operational Safeguard 3: Biodiversity and ecosystem services – This safeguard aims to conserve biological diversity and promote the sustainable use of natural resources.

Operational Safeguard 4: Pollution prevention and control, hazardous materials and resource efficiency – This safeguard covers the range of key impacts of pollution, waste, and hazardous materials for which there are agreed on international conventions, as well as comprehensive industry-specific and regional standards, including greenhouse gas accounting.

Operational Safeguard 5: Labour conditions, health, and safety – This safeguard establishes the Bank's requirements for projects concerning workers' conditions, rights and protection from abuse or exploitation.

Table AN1: Summary of the OSs and their respective details

OS 1: Environmental and Social Assessment	
Objectives:	<ul style="list-style-type: none"> <li>• To identify and assess the environmental and social impacts (including gender) and climate change vulnerability issues of Bank lending and grant financed operations in their area of influence</li> <li>• To avoid or if not possible minimize, mitigate and compensate for adverse impacts on the environment and on affected communities;</li> <li>• To ensure that affected communities have timely access to information in suitable forms about Bank operations and are consulted meaningfully about issues that may affect them</li> </ul>
Trigger:	<ul style="list-style-type: none"> <li>• This OS is triggered through the mandatory Environmental and Social Screening Process through which the project is assigned a Category based upon its potential environmental and social risks and impacts in its area of influence. These potential risks and impacts include physical, biological, socio-economic, health, safety, cultural property, transboundary impacts and global impacts including Greenhouse Gas (GHG) emissions and vulnerability to climate change effects.</li> </ul>
OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation	
Objectives:	<ul style="list-style-type: none"> <li>• To avoid involuntary resettlement where feasible, or minimize resettlement impacts where involuntary resettlement is unavoidable, exploring all viable project designs;</li> <li>• To ensure that displaced people receive significant resettlement assistance, preferably under the project, so that their standards of living, income earning capacity, production levels and overall means of livelihood are improved beyond pre-project levels;</li> <li>• To set up a mechanism for monitoring the performance of involuntary resettlement programs in Bank operations and remedying problems as they arise so as to safeguard against ill-prepared and poorly implemented resettlement plans</li> </ul>
Trigger:	<p>This OS is triggered if projects require the involuntary acquisition of land, involuntary acquisition of other assets or restrictions on land use and on access to local natural resources which result in:</p> <ul style="list-style-type: none"> <li>• Relocation or loss of shelter by the people residing in the project area of influence;</li> <li>• Loss of assets or restriction of access to assets including national parks, protected areas or natural resources; or</li> <li>• Loss of income sources or means of livelihood as a result of the project, whether or not the PAPs are required to move.</li> </ul>
OS 3: Biodiversity and Ecosystem Services	
Objectives:	<ul style="list-style-type: none"> <li>• To preserve biological diversity by avoiding, or if not possible, reducing and minimizing impacts on biodiversity;</li> </ul>

	<ul style="list-style-type: none"> <li>• In cases where some impacts are unavoidable, to endeavor to reinstate or restore biodiversity including, where required, the implementation of biodiversity offsets to achieve “not net loss but net gain” of biodiversity;</li> <li>• To protect natural, modified and critical habitats; and</li> <li>• To sustain the availability and productivity of priority ecosystem services to maintain benefits to the affected communities and to sustain project performance.</li> </ul>
Trigger:	This OS is triggered if a project is to be located in a habitat where there may be potential biodiversity impacts or in areas providing ecosystem services upon which potentially affected stakeholders are dependent for survival, sustenance, livelihood or primary income, or which are used for sustaining the project. It is also triggered if the project is designed to extract natural resources as the main purpose (e.g., plantation forestry, commercial harvesting, agriculture, livestock, fisheries, and aquaculture).
OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency	
Objectives:	<ul style="list-style-type: none"> <li>• To manage and reduce pollutants likely to be caused by a project so that they shall not pose harmful risks to human health and the environment, including hazardous, non-hazardous waste and GHG emissions.</li> <li>• To set a framework for efficiently utilizing all a project’s raw materials and natural resources especially focusing on energy and water.</li> </ul>
Trigger:	This OS is triggered if the project is likely to cause significant adverse environmental or social impacts owing to the emission of pollutants, waste or hazardous materials covered by national legislation, international conventions or internationally recognized standards or by unsustainable resource use. It is also triggered by potentially significant levels of GHG emissions.
OS 5: Labor Conditions, Health, and Safety	
Objectives:	<ul style="list-style-type: none"> <li>• To protect the workers’ rights and to establish, maintain, and improve the employee-employer relationship;</li> <li>• To promote compliance with national legal requirements and provide due diligence in case national laws are silent or inconsistent with the OS;</li> <li>• To provide broad consistency with the relevant International Labor Organization (ILO) Conventions, ILO Core Labor Standards and the UNICEF Convention on the Rights of the Child in cases where national laws do not provide equivalent protection;</li> <li>• To protect the workforce from inequality, social exclusion, child labor and forced labor; and</li> <li>• To establish requirements to provide safe and healthy working conditions</li> </ul>
Trigger:	This OS is triggered if the project involves the establishment of a temporary or permanent workforce.

The Bank ISS provides for RAP or ARAP to be prepared in order to address potential land acquisition or related issues. However, to ensure GCF requirements are met, A Resettlement Policy Framework (RPF) has been developed to address potential land acquisition or related issues in line with the requirements of the Operational Safeguard 2: Involuntary resettlement land acquisition, population displacement and compensation and those of the national laws and regulations of the country. The RPF also includes screening criteria, eligibility criteria, implementation procedures, institutional arrangements, valuation methods, generic entitlement matrix, grievance and monitoring mechanisms, expected budget and capacity development plan (where necessary). The RPF includes procedures to develop an Abbreviated RAP. The RPF is presented in Annex 10.

Each Operational Safeguard defines, in its objectives, the desired outcomes, followed by specific requirements for projects to help clients achieve these outcomes. Compliance with the relevant national law is an integral part of all OSs.

In this Programme, the use IFC performance standards will be used to ensure the mirror-image of International Best Practice is attained in the programme. In summary, the Eight (8) IFC performance Standards are as follows:

1. PS1: Assessment and Management of E&S Risks and Impacts
2. PS2: Labour and Working Conditions
3. PS3: Resource Efficiency and Pollution Prevention
4. PS4: Community Health, Safety, and Security
5. PS5: Land Acquisition and Involuntary Resettlement
6. PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
7. PS7: Indigenous Peoples
8. PS8: Cultural Heritage

### **Goods and activities harmful to the environment exclusion list**

The Revised Policy on Expenditures Eligible for Bank Group Financing (May 2008) includes a **‘Negative List’** that bans public and private investment in goods that are “harmful to the environment” without explicitly defining what this means. On the basis of international best practice (Particularly with reference to the IFC exclusion list), and with particular reference to criteria provided in the various OSs, the Bank defines the following as harmful to the physical and social environment, and excludes them—in addition to the items explicitly mentioned in the Negative List—from its operations for both the public and private sectors:

- Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements;

- Production of or trade in radioactive materials, with the exception of medical materials and quality-control equipment for which the radioactive source is trivial and adequately shielded;
- Production of or trade in or use of unbonded asbestos fibers or other products with bonded asbestos as dominant material;
- Production of or trade in pharmaceuticals, chemical compounds and other harmful substances subject to international phase-outs or bans, including pesticides classified as Class Ia (extremely hazardous), Ib (highly hazardous) or II (moderately hazardous);
- Production of or trade in ozone-depleting substances subject to international phase-out;
- Trade in wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora;
- Purchase of logging equipment for use in unmanaged primary tropical rainforests; and
- Production and activities involving harmful or exploitative forms of forced labor and/ or child labor as defined by national regulations.

**Note:** The 'Negative List' includes the following items: alcoholic beverages, tobacco, radioactive materials, platinum, pearls, precious stones, gold and related products, nuclear reactors and related products, weapons, ammunition and other goods used for military and/or paramilitary purposes, luxury consumer goods, and goods harmful to the environment.

As the program will exclude category 1 projects, all projects which have been identified as category 1 projects in Annex 2 (Environmental and Social Screening) of the AfDB ESAP document will be included in the exclusion list of the project that will not be financed through the program. Box A below presents the projects as indicated in the particular Annex of the ESAP document.

<b>Box A</b>	
<b>Affect environmentally sensitive components</b>	
<ul style="list-style-type: none"> <li>• Natural and critical habitats (as per definitions in OS 3).</li> <li>• Legally protected areas and internationally recognized areas (as per definition in OS3)</li> <li>• Projects that intentionally intend to introduce invasive alien species and/or GMOs.</li> </ul>	<ul style="list-style-type: none"> <li>• Projects that may cause a significant impact to priority ecosystem services (as defined by OS 3)</li> <li>• Projects that may affect populations of endangered and/or critically endangered species (as defined by OS 3)</li> </ul>
<b>Affect socially sensitive components</b>	
<ul style="list-style-type: none"> <li>• Lead to the resettlement of a large population (more than 200 people) (as per OS 2)</li> <li>• Affect rural areas whose population density is higher than the national average</li> <li>• Affect physical cultural heritage (as defined in OS 1)</li> <li>• Lead to a loss of intangible cultural heritage (as defined in OS 1)</li> <li>• Affect areas presenting complex social settings or subject to significant social risks (post-</li> </ul>	<ul style="list-style-type: none"> <li>conflict situations)</li> <li>• Negatively affect vulnerable groups (as defined in OS1)</li> <li>• Reduce the food supply for children and vulnerable groups, etc.</li> <li>• Lead to a loss of productive assets (land, credit, etc.) for vulnerable groups</li> <li>• Intensify discriminatory practices, particularly against women</li> <li>• Reduce women's participation in decision-making processes</li> </ul>

Also projects that will involve displacement with similar extent as displacement in category 1 projects, projects to be located within biodiversity hotspot areas, cultural heritage areas, local cultural sites, graveyards, monuments will be excluded from financing arrangement.

### **Sitting considerations of the Mini-grids subprojects**

In addition to the above exclusions, several factors should be considered when selecting a site for locating the subprojects. Site and other technical considerations related to the quality of the resource is an obvious primary consideration; however, there are some other significant issues that will be considered when siting the subprojects.

Several factors should be considered when selecting a site for locating the subprojects. Site and other technical considerations related to the quality of the resource is an obvious primary consideration; however, there are some other significant issues that will be considered when sitting the subprojects:

- **Flood-prone areas** – Construction of solar plants in areas prone to flooding could result in the damage of PVs and associated infrastructure. In general, construction in flood-prone areas shall be avoided.
- **Air pollution** - Air pollution is a common issue in the major cities and industrial areas. A heavy concentration of suspended dust has the potential both to decrease the net solar insolation and to accumulate dust on panels, requiring more frequent cleaning to avoid a loss of efficiency. This may be an important consideration, especially in the areas which have been shown to have had the country's highest emission levels.
- **Seismicity, mudflows, and landslides (Geo-hazards)** - Construction of solar plants in areas of high seismicity or in areas prone to mudflows and landslides could result in the damage of PVs and associated infrastructure. In general, construction in high-risk areas for these hazards will be avoided.
- **Geotechnical considerations**- Geotechnical considerations must also be taken into account, including considerations regarding resistivity, soil load-bearing properties, wind, loss of vegetation, drainage and storm-water management.
- **Site usage**- PV sites make intensive use of the land. Unlike wind projects, which typically need only 1 acre of land per megawatt of electricity produced and permit the landowner to continue to use land near the turbine areas for agricultural or other income-generating uses, utility-scale PV projects typically require between 5 and 10 acres of land for each megawatt of power produced, and require that the developer have exclusive use of the site to ensure that no disruption to solar insolation occurs.

As a result, the rental costs at a PV site are typically higher than those of a wind farm to compensate the landowner for loss of use of the property for other income-producing



activities. Thus, finding sites with limited agricultural, mineral or other productive uses will help ensure that the site acquisition will be cost-effective.

- **Size-** Generally speaking, the larger the system, the lower the unit cost per watt generated and the more power that will be produced. Thus, consideration shall be given as to whether a site is large enough to be economically viable.

## **Environmental and Social Constraints**

A detailed assessment of environmental and social constraints related to solar PV subprojects establishment has to be done and adequate mitigations addressed before decisions related to subprojects siting are made. Environmental and social factors could significantly impact the effectiveness, economic feasibility, and therefore, the siting of these facilities of the subprojects. In addition, there are areas of high environmental and/or social sensitivity the proximity of which should also be strongly considered. These environmental and/or social high sensitivity areas are briefly presented in this section.

- **Important Bird Areas/Migratory Birds** - There is a potential for birds to become disoriented by reflections from solar PVs, resulting in collisions with ground-based obstacles. Therefore, the siting of solar facilities in Important Bird Areas (IBAs) or near known bird migratory routes should be avoided to the greatest extent possible. Therefore, an additional protective buffer should be placed around IBAs. Where siting facilities within an IBA or the buffer area are unavoidable, a more detailed assessment of environmental effects and additional impact mitigation measures will be required.
- **Forested Areas** - Potential solar sites in forested areas would be discouraged given the relative country efforts in conserving forest habitats and the abundance of un-forested areas throughout the country due to continuing environmental degradation. When siting facilities within a forested area are unavoidable, a more detailed assessment of environmental effects and additional impact mitigation measures will be required.
- **Surface Water Quality** - Due to clearing, grading, trenching and foundation construction for the solar power plant components, there is a potential for soil erosion during construction. Due to this potential, if solar power facilities are located within 1 km of a surface water feature (e.g., intermittent or perennial stream, lakes, or ponds), a more detailed assessment of environmental effects and additional impact mitigation measures will be required.
- **Cultural heritage** - Special care should be taken to avoid siting solar facilities at or within the view shed of known or tentative UNESCO World Heritage sites due to the global

uniqueness of these areas. Special care should also be taken to avoid placing solar facilities on or near locally-registered cultural heritage sites.

- **Material assets/social** - Airplane or helicopter pilots can become disoriented by potential reflection of light off solar PVs near airports. Therefore, special measures should be taken to avoid sitting facilities near airports, and a buffer should be placed around airports. When sitting facilities within a buffer are unavoidable, a more detailed assessment of environmental effects and additional impact mitigation measures will be required. Airports themselves would be considered exclusion zone
- **Environmentally sensitive areas:** The sitting of the subprojects shall not include Environmentally Sensitive Areas such as Wetlands, Flood Plains, Critical Habitats, protected areas, e.g. National parks. Protected areas — national parks and Game/Forest reserves, wilderness areas, wildlife refuges, and critical habitats for endangered species — and buffer zones around these areas are excluded from consideration. Potential solar sites in or near other areas afforded legal protection, including National Parks, and preserved lands would be discouraged as these areas enormous importance to the country and are protected and managed heavily through various legislations.
- **Proximity to the transmission grid and loading** – In general, it is recommended for the subprojects facilities to be located proximate to existing substations with capacity on the transmission grid. This is due to the reason that solar facilities become less economical at increasing distances from substations due to the costs associated with extending distribution or transmission lines to the solar plant. If the PV project is selling energy to a utility company, consideration must be given to how close the nearest interconnection point will be to the site and whether the existing utility facilities have available capacity for new connections. Connecting to the grid can be expensive in terms of both infrastructure and soft costs, which can include not only the design and infrastructure costs of the developer, but also network upgrade costs of the utility company (which are often paid for by the developer), interconnection feasibility studies, the costs of obtaining any necessary governmental approvals, and land rights from third parties to establish the transmission lines. Those costs may be compounded if the point of interconnection is a significant distance away from the site. Proximity to existing infrastructure, such as electric transmission lines, roads, and urban areas, as these, can significantly impact overall project costs and expected environmental impacts.
- **Existing land uses and land ownership** – This must also be considered, as these factors could influence how difficult it is to obtain leases and permits in certain areas. The existing land use also determines the extent of cumulative effects such as visual and landscaping effects, Solar PV project influences/impacts on socio-economic activities such as a change in the range of income generating activities, lifestyles, etc.

- **Cumulative effects** – cumulative effects pose a great limitation in siting solar PV projects. These include effects to the existing land uses, socio-economic activities, impacts associated with visual and landscape effects. As most of the population in DRC depend on agriculture as a major economic activity, special consideration should be given to the impact of concentrating multiple solar farms in an area with high socio-economic potential, e.g. resource soils. Potentially significant cumulative effects associated with solar are presented in Table AN-2 below.

Table AN-2: Cumulative effect issues associated with solar power generation and mitigation measures

Issue	Valued resources	Geographic boundary	Temporary boundary	Potential mitigation measures
Cumulative loss of agricultural output from facility development	High-value soils	Extent of mapped high-value soils	Project construction until demobilisation	Regional land planning measures to limit the siting of locations in high-value soil areas.

In this case, special guidance for cumulative impact assessment should be included in the program. These will be used as required by the Project Implementation Unit to establish the methodology where there are potential cumulative impacts.

- **The effects of development on local communities related to economic development and available social support must be considered. In this case, Broad Community Support has to be attained and thus considered among sub-project siting considerations.**

The Environmental assessment study results shall be used to develop environmental and social management plans (ESMP) to define the mitigation measures for identified environmental and social risks and impacts. The ESMP, which may contain several plans—e.g., abbreviated Resettlement Action Plan or Stakeholder Engagement Plan—will guide the developer during project implementation and operation.

### **ANNEX 3: Summary of the Integrated Environmental and Social Impact Assessment (IESIA) Guidance Notes**

The IESIA Guidelines are tools used in the implementation of the Bank's Environmental and Social Assessment Procedures. The major objective of the IESIA Guidelines is to provide guidance to the staff of the Bank and RMCs on how to adequately consider cross-cutting themes while assessing the environmental and social impacts of a project. The Integrated Environmental and Social Impact Assessment (IESIA) Guidance notes provide a systematic process for addressing projects' environmental and social impacts with a clear understanding of the specific sector characteristics. These guidelines present the most frequent potential impacts and enhancement/mitigation measures for the considered sub-sector. They also provide a brief summary of external factors and the main hazards that can influence sectoral projects. The guidelines also outline indicators that could be useful for monitoring the considered project as well as series of references for further readings.

The IESIA Guidance Notes are presented in three standalone volumes that provide guidance in the three essential components of (i) the Environmental and Social Assessment process, (ii) specific topics and operational safeguard requirements, and (iii) technical guidance on key sectors and subsectors that have been proposed by operational departments as areas where guidance is needed:

#### **Volume 1: Environmental and Social Assessment Instruments and Outputs**

In OS1 and the ESAP, several new environmental and social assessment instruments and outputs are introduced. These include the use of Strategic Environmental and Social Assessment (SESA) for policy and programme lending and the use of Environmental and Social Management Frameworks and Systems (ESMFs and ESMSs) for programme lending and Financial Intermediaries. There is also a greater emphasis on compliance monitoring during project implementation as well as greater attention to country systems. For Bank operations staff and their counterparts in borrowers or clients, it is vital that they have clear and easy to use guidance on these different instruments and outputs. This guidance is therefore designed specifically to complement the ESAP Annexes, which provide templates and report formats in many cases. The main purpose of this category of guidance should be to:

- Make it clear to staff what is the nature of the different instruments in the specific context of the OSs and ESAP
- Assist them in preparing TORs, report formats and selecting high quality consultants
- Evaluate the quality of reports and deliverables to judge if the OS1 requirements are followed satisfactorily
- Highlight key issues of importance for good compliance.

## **Volume 2: Environmental and Social Assessment Topics**

The Operational Safeguards introduce or elaborate on a number of key ESA requirements and topics. It is of great importance to provide Bank and borrower staff with clear and easy to use guidance to ensure a high level of understanding of what is required, best practice on meeting the requirements and where appropriate sources of good technical information.

Some of these topics reflect specific OS requirements such as applying safeguards to policy and programme lending, public (free, prior and informed) consultation and grievance mechanisms. Some address specific areas of environmental and social risk not previously covered specifically by Bank policies, such as vulnerable groups, cultural heritage, environmental flows, biodiversity, GHG emissions, and labor standards. Others cover topics long recognized to be of great importance and where compliance may be improved through better technical guidance, such as resettlement or pollution control.

## **Volume 3: Guidance on Specific Sectors called Sector Keysheets**

In this volume, 30 specific project types within four key sector areas for which checklists have been prepared. The aim of such checklists should be to identify typical project components, sources of impacts, commonly applied assessment methods and likely management options. These can be used by Bank staff to assist in the process of screening projects in the early stage of the Project Cycle as well as for tailoring TORs for Environmental and Social Assessment.

**ANNEX 4: List of stakeholders consulted during the preparation of the Program/ESMF**

<b>LOCATION</b>	<b>STAKEHOLDER TYPE</b>
Bumba	Provincial Governorship
	Territorial Administration
	REGIDESO
	SNEL
	Plantation
	Hospital
	Provincial Government
	Provincial Government - Economy
	Independent Local Energy Producers
	Provincial Government - Energy
	Tribal Leaders
	Provincial Government - Environment
	Provincial Government - Agriculture
	Provincial Government - Family Planning and Gender
	Provincial Government - Planning
	Provincial Government - Urban Planning
	Religious Organisations
Gemena	Provincial Governorship
	Politician - Provincial
	Donor
	Banking Sector
	Philanthropic Organisation
	REGIDESO
	Tribal Leaders
	Provincial Government - Energy
	Civil Society
	Religious Organisations
	Independent Local Energy Producers
	Provincial Government - Environment
	SNEL
	Provincial Government - Planning
	Provincial Government - Family Planning and Gender
	Provincial Government - Home Office & Decentralised Governance
Isiro	Provincial Governorship
	Provincial Ministry of Energy
	Provincial Government - Energy
	Mayor's office

	SNEL
	CNE
	Provincial Government - Economy
	Provincial Government - Health
	Provincial Government - Planning
	Tribal Leaders
	REGIDESO
	Coffee Plantation
	FENAPEC
	FEC
	Local Businesses
	Brewing industry (now abandoned)
	Banking Sector
	Universities
	Governor
	Provincial Government - Mining, Energy and Water
	Religious Organisations
Kinshasa/Mongala	Politician - Central
Kinshasa	Politician - Central
	Politician - Provincial
	Telecoms
	Environmental Protection Agency
	Politician
	Political Advisor
	Donors
	Police
	Business
	Central Government
	SNEL
	Independent Local Energy Producers
	Tribal Leaders
Lisala	Provincial Governorship
	Governor
Goma	SNEL
	Electricity project developer

## ANNEX 5: Gender Mainstreaming and Vulnerability Assessment

### Indicative Framework for Assessing and Mainstreaming Gender Concerns

#### Preamble

DRC has made several commitments to ensuring that gender and vulnerability issues are not only a part of the national discourse but also that they are integrated into policies and development programs. These commitments are contained in different legislative frameworks as presented in the baseline information in this ESMF.

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

#### Objective

- i. Ascertain how to promote women's and other vulnerable groups' participation in the project and in particular activities.
- ii. Determine under what conditions women and other vulnerable groups could participate in the community-based activities.

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

#### Focus/Scope of the Study

In particular, the study should provide information on women and other vulnerable groups:

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



## **ANNEX 6: Generic E & S Mitigation measures**

### **Flora and Fauna**

The project proponent will ensure proper demarcation of the project area to be affected by the subproject construction civil works. This will be aimed at ensuring that any disturbance to flora is restricted to the actual subproject area and avoid spillover effects to the neighboring areas. In the same vein, there will be strict control of construction vehicles to ensure that they operate only within the area to be disturbed. The proponent shall put in place a program to plant trees as a way of replacement of the cleared vegetation/trees within the area probably in a public institution like schools.

### **Impacts on air quality from vehicle exhaust emissions**

- Drivers of construction vehicles must be sensitized so that they do not leave vehicles idling, that exhaust emissions are lowered.
- Maintain all machinery and equipment in good working order to ensure minimum emissions of carbon monoxide, NO<sub>x</sub>, SO<sub>x</sub> and suspended particulate matter.

### **Dust emissions**

- The construction area should be fenced off to reduce dust to the public
- Proper scarf folding should be done to minimize dust emissions to the public
- Sprinkle loose surface earth areas with water to keep dust levels down.
- Construction trucks moving materials to site, delivering sand and cement to the site should
- be covered to prevent material dust emissions into the surrounding areas;
- Masks should be provided to all personnel in areas prone to dust emissions during construction
- Stockpiles of excavated soil should be enclosed/covered/watered during dry or windy conditions to reduce dust emissions.
- Drivers of construction vehicles must be sensitized so that they limit their speeds so that dust levels are lowered.

### **Solid waste**

- Ensure spoil from excavations is arranged according to the various soil layers. This soil can then be returned during landscaping and the rehabilitation, in the correct order which they were removed that is top soil last.
- Contractor to put in place and comply with a site waste management plan.
- Provide litter collection facilities such as bins.

- The contractor should comply with the national requirements and Building rules on storage of construction materials.
- Use of durable, long-lasting materials that will not need to be replaced as often, thereby reducing the amount of waste generated over time.

### **Land acquisition and resettlement**

No construction should be undertaken until PAPs are compensated for their losses, and have received their resettlement entitlements. That is, before any project activity is implemented, PAPs will need to be compensated in accordance with the project's resettlement policy framework. In cases where a dispute or absence makes it impossible to compensate the affected party(ies) promptly, payments may be held in escrow by the court or other responsible party on condition that the affected party does not lose the right of grievance and appeal.

For activities involving land acquisition or loss, denial or restriction to access, it is further required that these measures include provision of compensation and of other assistance required for relocation prior to displacement and preparation of resettlement sites with adequate facilities, where required.

Taking of land and related assets may take place only after compensation has been paid and where applicable, resettlement sites and moving allowances have been provided to displaced persons. For project activities requiring relocation or loss of shelter, the policy further requires that measures to assist the displaced persons are implemented in accordance with the individual ARAPs.

### **Occupation safety and health hazards**

- The project shall ensure that private companies/Mini-grids operators and their contractors provide OHS training that may include hazard awareness, safe work practices and emergency preparedness to their workers to ensure they are appraised to project sites rules of work, personal protection and preventing injury to fellow workers.
- The Project will require all Mini-grids private companies/operators and their contractors to implement an Environmental, Health and Safety (EHS) plans which will outline procedures for avoiding health and safety incidents and for emergency medical treatment. This will be achieved by making it a component of contractual agreement.
- The project will require all Mini-grids private companies/operators and their contractors to provide appropriate Personal Protective Equipment (PPEs) at the work sites to prevent and minimize exposure to injury.
- Mini-grids private companies/operators and their contractors will be required to carry out regular safety inspections to ensure measures to manage potential OHS hazards.

**Public health risk**

- Awareness creation by the ESIA team to the public/locals prior to construction.
- The contractor is impressed upon not to set a construction camp on site.

**Increased Demand for Material Consumption**

- The contractor should source all building materials such as stone, sand, ballast and hard core from licensed and approved sites.
- Ensure accurate budgeting and estimation of actual construction materials to avoid wastage.
- Reuse of construction materials where possible.

**Oil Spill Hazards**

- In the event of accidental leaks, contaminated top soil should be scooped and disposed of appropriately.
- It is proposed that the refueling and maintenance of large vehicles will not take place at the construction site.
- Mini-grids private companies/operators and their contractors to create awareness for the employees on site on company procedures of dealing with spills and leaks from oil storage tanks for the construction machinery through induction and safety training.
- Vehicles and equipment must be serviced regularly and kept in good state to avoid leaks.
- In case of spillage the contractor should isolate the source of oil spill and contain the spillage using sandbags, sawdust, absorbent materials and/or other materials approved by materials.
- Mini-grids private companies/operators and their contractors should also provide security to guard against vandalism when the site is unattended.
- Proper training for the handling and use of fuels and hazardous material for construction workers.
- All chemicals should be stored within the budded areas and clearly labelled detailing the nature and quantity of chemicals within individual containers.

**Storm water and Wastewater**

- Drainage system should be constructed to ensure surface run off does not affect/spill to the neighbour land.
- Construct the drainage system in a way to run along the road and follow natural drain way.
- Concrete only the required area for the facility and leave the rest of the land with vegetation like grass.
- Construct rain harvesting system on the control buildings and harness into storage tanks for use in irrigation or household activities

## **Noise and vibration during construction**

These proposed mitigation measures aim to ensure that noise generated by construction and operation activities is kept to minimum and adheres to relevant noise standards. They include:

- Fencing off the construction site with iron sheet during construction
- Install portable barriers to shield compactors thereby reducing noise levels.
- Use of noise-suppression techniques to minimize the impact of construction noise at the project site.

### **Use equipment designed with noise control elements.**

- Co-ordinate with relevant agencies regarding all construction.
- Control the project area to avoid unnecessary access by idlers
- Limit vehicles to minimum idling time and observe a common-sense approach to vehicle use, and encourage drivers to switch off vehicle engines whenever possible.

Set and observe speed limits and avoid raving of engines

- The Contractor shall ensure that construction activities are limited to working hours (i.e., between 8am and 5pm daily) from Monday to Friday, or as required in terms of legislation.

## **Visual and Aesthetic Landscape Impacts**

The visual negative impacts can be mitigated through putting up a wall round the facility to keep off/screen the project stacks, poles, cables and transformers by the project proponent.

## **Soil Erosion**

- Mini-grids private companies/operators and their contractors shall avoid ground breaking during the seasons of high rainfall to avoid erosion.
- Monitoring of areas of exposed soil during rainy seasons during construction phase of the project to ensure that any incidents of erosion are quickly controlled.
- Mini-grids private companies/operators and their contractors should ensure recovery of exposed soils with grass and other ground cover as soon as possible.
- Areas compacted by vehicles during site preparation and construction should be scarified (ripped) by the contractor in order to allow penetration of plant roots and the re growth of the natural vegetation
- Direct the drainage to follow the natural course way e.g. along the road to avoid draining water into someone land especially once construction is finished.
- Proper drainage channels and leveling especially of the access road to reduce run-off velocity and increase infiltration of rain water into the soil.
- Proper compaction will also be done along the access road.

### **Social Risks Related to Labor Influx and Gender Based Violence (GBV)**

- Provision of cultural sensitization training for workers regarding engagement with local community.
- Sourcing of local workforce;
- Introduction of sanctions (e.g., dismissal) for workers involved in criminal activities;
- Provision of substance abuse prevention and management programs;
- Worker Code of Conduct acknowledging zero tolerance for GBV;
- Implementation of HIV/AIDS education program;
- Information campaigns on STDs among the workers and local community;
- Education about the transmission of diseases;
- Mandatory and regular training for workers on required lawful conduct in host community and legal consequences for failure to comply with laws;
- Ensuring that children and minors are not employed directly or indirectly on the project;
- Provision of casual employment to both male and female throughout the implementation cycle;
- All gender based violence to be reported and dealt with as per the law;
- Any child dropout should be reported to the relevant government agency.

### **Hazardous Waste Mitigation Measure and Management/Disposal Plan**

- Procurement of Electronic Equipment from Credible Manufacturers
- Proper disposal and recycling whenever feasible.
- the corresponding mitigation measures to successfully manage negative E&S impacts based on project stage.

## **ANNEX 7: Sample Stakeholder Engagement Plan**

A good Stakeholder Engagement Plan should:

- Describe regulatory, lender, company, and/or other requirements for consultation and disclosure.
- Identify and prioritize key stakeholder groups, focusing on Affected Communities.
- Provide a strategy and timetable for sharing information and consulting with each of these groups.
- Describe resources and responsibilities for implementing stakeholder engagement activities.
- Describe how stakeholder engagement activities will be incorporated into a company's management system.

The scope and level of detail of the plan should be scaled to fit the needs of the project.

### **1. Introduction**

Briefly describe the project, including design elements and potential social and environmental issues. Where possible, include maps of the project site and surrounding area.

### **2. Regulations and Requirements**

Summarize any legal, regulatory, lender, or company requirements pertaining to stakeholder engagement applicable to the project operations. This may involve public consultation and disclosure requirements related to the social and environmental assessment process.

### **3. Summary of any Previous Stakeholder Engagement Activities**

If the company has undertaken any activities to date, including information disclosure and/or consultation, provide the following details:

- Type of information disclosed, in what forms, and how it was disseminated
- The locations and dates of any meetings undertaken to date
- Individuals, groups, and/or organizations that have been consulted
- Key issues discussed and key concerns raised
- Company response to issues raised, including any commitments or follow-up actions
- Process undertaken for documenting these activities and reporting back to stakeholders

### **4. Project Stakeholders**

List the key stakeholder groups who will be informed and consulted about the project. These should include persons or groups who:

- are directly and/or indirectly affected by the project
- have —interests|| in the project that determine them as stakeholders
- have the potential to influence project outcomes or company operations

## **5. Stakeholder Engagement Program**

- Summarize the purpose and goals of the program
- Briefly describe what information will be disclosed, in what formats, and the types of methods that will be used to communicate this information to each of group
- Briefly describe the methods that will be used to consult with each of group
- Describe how the views of women and other relevant sub-groups will be taken into account during the process
- Describe any other engagement activities that will be undertaken

## **6. Timetable**

Provide a schedule outlining dates and locations when various stakeholder engagement activities, including consultation, disclosure, and partnerships will take place and the date by which such activities will be incorporated into the company's management system.

## **7. Resources and Responsibilities**

Who within the company will be responsible for carrying out these activities? What budget has been allocated toward these activities? Indicate what staff and resources will be devoted to managing and implementing the Stakeholder Engagement Program. Integration of the community liaison function with other core business functions is also important, as is management involvement and oversight.

## **8. Grievance Mechanism**

Describe the process by which people affected by the project can bring their grievances to the company for consideration and redress. Who will receive public grievances, how and by whom will they be resolved, and how will the response be communicated back to the complainant?

## **9. Monitoring and Reporting**

Describe any plans to involve project stakeholders (including affected communities) or third-party monitors in the monitoring of project impacts and mitigation programs. Describe how and when the results of stakeholder engagement activities will be reported back to affected stakeholders as well as broader stakeholder groups?

## **10. Management Functions**

How will stakeholder engagement activities be integrated into the company's environmental and social management system and with other core business functions?

- Who will have management oversight for the program?
- What are the plans for hiring, training, and deploying staff to undertake stakeholder engagement work?

- What will be the reporting lines between community liaison staff and senior management?
- How will the company's stakeholder engagement strategy be communicated internally?
- What management tools will be used to document, track, and manage the process?
- For projects or company operations involving contractors, how will the interaction between contractors and local stakeholders be managed to ensure good relations?



## ANNEX 8: Sample Grievance 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 9: 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 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 vapour form. Excessive levels of lead can affect a child's growth, cause brain damage, harm kidneys, impair hearing and induce behavioural problems, and in adults, lead can cause memory loss and lower the ability to concentrate as well as harm the reproductive system.

DRC has no any facility for disposal/recycling of used lead acid batteries. Therefore, as part of a long-term solution to this challenge, a good approach is to development of a strategic approach which will include the Government, mini grid developers and other Private Sector companies in DRC and outside DRC (Investors) and their financiers in putting in place coherent battery storage, recycling, and disposal approach in the Country.

Private sector can play an important role in managing lead-acid battery recycling. Good and profitable private sector involvement in battery recycling can present a very best approach in dealing with ULAB in DRC. Local battery manufacturing should also be encouraged, since the practice will avoid the global loops of toxic materials.

The recommended Mitigation measure for the DRC Mini-grid programme, is to have an established, well-coordinated system of collection and storage of the used batteries from the Mini-grid sites and from stand-alone solar system users once the batteries become obsolete. A central collection and storage sites has to be established within different strategic areas in the country to cater for all collected batteries from existing Mini-grids and proposed mini-grids. These collection and storage areas, will serve as containing sites for used batteries while a better and feasible option for disposal and recycling is developed through established country dialogue involving the government and other relevant stakeholders.

In this regard, all Mini-grid and stand-alone companies have to include battery collection and recycling policy in their established ESMS and also stipulate well relevant approach for collection and storage in their Environmental Assessment studies (ESIA or Environmental study Notices) and relevant ESMP.

To regulate waste management of such toxic substance, on the international level the Basel Convention 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:

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](http://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 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:

- Segregated work areas, so that process areas do not contaminate non-process or eating areas
- Comprehensive Health and Safety Policies
- 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 neighbourhood 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

Some developed countries and areas have comprehensive battery recycle regulations that can be learned from, 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.

## **Annex 10: Resettlement Policy Framework**

### **1.0 INTRODUCTION**

#### **1.1 Background**

The Project description and the anticipated projects components have been presented in the ESMF document for the project. Since, the specific sites where subprojects will be carried out have not yet been selected; the proper safeguard instrument to be prepared for compliance with the GCF requirements and the AfDB operational Safeguard policies is a Resettlement Policy Framework (RPF). While any resettlement activities are expected to be minimal, this RPF defines the process by which potential subproject resettlement impacts leading to the need for an ARAP will be screened, and impact assessment and compensation measures developed and implemented. Once the sub-projects, specific sites and the beneficiary communities have been defined clearly, all sub-projects and activities will be screened and the appropriate Mitigation tools such as ESIA's or Environmental Impact Notices, ESMPs and ARAP will be developed where applicable in line with the provisions of the local regulations and AfDB safeguards.

This Resettlement Policy Framework (RPF) provides the necessary background to ensure that any subprojects that might involve land acquisition and/or resettlement and loss of livelihoods of any people will comply with both Congolese law and the Bank's Operational Safeguards.

The RPF will prescribe the process from the preparation, through review and approval to implementation of the sub-projects that will ensure that the substantive concerns of all African Development Bank's Operational Safeguards and relevant Congolese policy and legal frameworks will be adequately addressed.

Since, only projects that fall under category 2 of the AfDB ISS categorization, Abbreviated Resettlement Action Plans (ARAPs), where applicable, consistent with the guidance prescribed in this RPF, will be submitted to the AfDB for approval once specific information about land expropriation becomes available. The RPF describes the design criteria for the resettlement of affected persons in the course of implementation of the project, the legal context, the process for the preparation of a ARAP, the content of a Plan, the process for its execution and finally the required institutional organization.

#### **1.2 Resettlement Policy Framework Purpose**

Involuntary resettlement involves the displacement of people arising from development projects which encroach on their productive assets, cultural sites and income sources viz, land, grazing fields, other assets, etc. What distinguishes involuntary from voluntary resettlement is that the former involves people who may be displaced against their wishes, as they are often not the initiators of their movement.

The implementation of the Mini-grids programme may trigger the involuntary resettlement policy as minimal displacement is anticipated because land may be acquired for sub-projects activity purposes and affected persons will need to be compensated for loss of land, crops, dwellings and other structures, and livelihoods.

This Resettlement Policy Framework (RPF) has therefore been prepared to appropriately deal with matters such as the necessity for land acquisition, compensation and resettlement of people affected by the implementation of the sub-projects.

### **1.3 Objectives of the Resettlement Policy Framework**

The overall objective of the RPF is to provide guidance on how to deal with issues relating to land acquisition, compensation and resettlement during the implementation of the project. This will ensure that displaced and resettled persons are compensated for their loss at replacement cost, given opportunities to share in project created benefits, and assisted with the move and during the transition period at the resettlement site.

The specific objectives of the RPF are as follows:

- to minimize, as much as possible, acquisition of land for implementation of project sub-components, where such acquisition or project related activities will result in adverse social impacts,
- to ensure that where land acquisition is necessary, this is executed as sustainable programs to enable people share in the project benefits,
- to ensure meaningful consultation with people to be affected or displaced; and
- to provide assistance that will mitigate or restore the negative impacts of the project implementation on the livelihoods of people affected in order to improve their livelihoods or at least restore to pre-project levels.
- outline roles and responsibilities by various stakeholders in the planning, implementation, monitoring and evaluation of resettlement activities.

It further seeks to:

- Allow redress among communities affected by project activities; and
- Reduce stress on project affected communities/households.

The operational objective of the framework is to provide guidance to stakeholders participating in the mitigation of adverse social impacts of the project, including rehabilitation/resettlement operations, in order to ensure that project affected persons (PAPs) will not be impoverished by the adverse social impacts of the project.

The target groups for the RPF are Ministry of Energy, other Government departments relevant to the implementation of the programme, Sub-projects Proponents implementing off-grid sub-projects, and communities where the sub-projects will be implemented. Other institutions include Local Authorities and relevant Non-Governmental Organizations (NGOs).

### **1.4 The RPF Methodology**

The preparation of this RPF has largely been undertaken on the basis of secondary data from within the Congolese Government and the AfDB to gain insight into the AfDB and Congolese legal framework on resettlement related issues. Reference has also been made to similar frameworks prepared for projects proposals for the Congolese Government.

Relevant stakeholders have been consulted during the preparation of the AfDB-GCF Mini-grid programme (see Annex 4). The RPF will be disseminated to key stakeholder institutions that may play a role in resettlement activities, including local government officials and traditional authorities should

such cases arise during implementation of the project. Any ARAPs required when specific sub-component projects are known will be consulted with affected communities and disclosed at national and local levels through Ministry of Energy websites and other communication channels. The ARAPs shall also be posted in the Bank's Public Information Center (PIC) and the Bank's web site for public review and comments in accordance with the Bank's disclosure policy and the Bank's Environmental and Social Impacts Assessment Procedures (ESAP 2013).

## **2.0 POTENTIAL RESETTLEMENT IMPACTS AND SAFEGUARDS APPROACH**

The project includes a number of activities for which screening may be required leading to preparation of ESIA's, Environmental Impact Notices, ESMPs and ARAPs where applicable. Although impacts are expected to be minimal, infrastructure and construction related activities for both phases of the projects may require some land acquisition or the temporary or permanent displacement of crops, structures or persons.

As noted above, the project will include Mini-grid plants and connections to end users (distribution networks and associated facilities) and thus some small portions of land may need to be acquired. Some temporary relocation and compensation for lost assets and income of PAPs located where construction works will occur may be necessary.

As highlighted in the baseline information in this ESMF, the mini-grids projects will most likely be situated on lands that is owned by the government which has been provided by the village Authorities on customary land allocated by traditional community leaders. In most cases, the installations are not expected to cause any resettlement (with exception of few areas with mud houses and other properties), and may at best require a minimal loss of assets (e.g. trees, crops) needing to be cleared to install solar arrays and pave the way for end-user connections.

Consultations with affected communities will be held to ensure the relatively small footprints of all phase's installations will be sited so as to minimize or eliminate the need for any significant temporary or permanent resettlement or loss of assets or income. Government will be responsible any compensation (if required) for any land acquired for subprojects, or any other compensation for lost assets or income, from its own resources, independent of project funds.

The RPF provides the procedures to address potential resettlement impacts. However, specific sub-project details such as the site locations and designs are not expected to be available during the course of project implementation.

### **2.1 Monitoring and Evaluation**

Monitoring is a crucial element for the success of any resettlement project as it is important to accurately verify the information related to implementation of the Resettlement Plan, and should be planned and costed as early as possible in the project. The monitoring will provide feedback to project management which will help keep the programs on schedule and successful.

#### **Monitoring Process**

In order to comply with AfDB requirements the overall internal monitoring procedures will include internal performance monitoring, Impact monitoring and final external evaluation.



### **3.0 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK GOVERNING RESETTLEMENT**

This section of the RPF reviews the policy framework that is relevant to the AFDB-GCF RE Investment Framework activities, and assesses the adequacy of national legislation in terms of the policy principles of this RPF. The legal framework relating to resettlement issues consists of the various pieces of Congolese legislation and AfDB Operational Safeguards.

#### **3.1 DRC Legal Framework Affecting Resettlement**

##### **3.1.1 The Constitution of the DRC**

The Constitution of the DRC was approved by referendum on 19 December 2005, and promulgated by a decree of the Head of State on 18 February 2006. As far as protection of private property is concerned, it includes the following general principles in its Article 34:

- Private property is sacred.
- The State guarantees the right to individual or collective property, acquired within the framework of law or of custom.
- Nobody can be deprived of his/her property unless in the public interest and subject to fair and prior compensation paid in conditions determined by law.

##### **3.1.2 Legal framework and mechanisms for the settlement of disputes and appeal**

###### **a) Land regime and Congolese legislation on expropriation matters.**

Properties expropriation modalities for public use are governed by Act No 77/01 of 22 February 1977 on expropriation for public use. The modalities for land occupancy are governed by Act No 073-021 of 20 July 1973 on properties general regime, land and property régime as amended by the Act No 80-008 of 18 July 1980 on Land Code in DRC. They are considered to date as reference instruments in the matter.

###### **b) Legal mechanism of Act No 80-008 provisions dated July 18th 1980.**

The Land Act No 80-008 amending Act 73-021 of 20 July 1973 sets forth the land and state-domain regime in the DRC. Since the land reform of 1973, all lands have turned state-owned. This resulted in the abolition of « indigenous land » to assure the uniformity of the land law.

The procedure includes two phases:

- i. **The first is administrative**, where specified characteristics of expropriation, the extent of public interest, the holders of the power to expropriate, the rights subject to expropriation are precisely referred to. The administrative procedure has the following sequences:
  - Preparation Phase to expropriation: The expropriation procedure originates from the decision asserting the public interest (DUP) of works and ordering the expropriation. Preparation works such as the investigation on property ownership and PAPs identification are at the discretion of the Executive Branch.

- Decision of public interest nature of the works and expropriation: form and publicity: It is made by Ministerial Decree (or Presidential Decree, depending the cases), issue in the Official Gazette and notified to the people exposed to expropriation. The Decision for Public Interest (DUP) states the full identity of the concerned parties and is based on a plan mentioning the property to be expropriated and the works to be performed. It also sets the eviction deadline from the date of moving.
- Case of complaints and observations from the expropriated party: Complaints and observations are brought to the attention of the Minister of Land Affairs, within one month of the date of receipt of the DUP (or the date of notice). This period may be extended by the authority having decided on expropriation. At the expiry of the deadline, compensation offers are made to the expropriated party by the Minister of Land Affairs. These offers are based on a report prepared and signed by two Real Estate Experts/Surveyors who can be joined, if necessary, by a specialist depending on the nature of the property to be expropriated. If it is about expropriating collective or individual rights, enjoyed by the local populations on public land, the expropriating party uses a required investigation to formulate their offers for compensation, and failing to settle an agreement, the claims are brought to the courts.

ii. **It is followed by the judicial phase**, and includes, finally, compensation and other rights of the expropriated person: In Congolese law, expropriation is a procedure that falls within the jurisdiction of the Executive Branch. The courts are competent only for *a posteriori* settling disputes and claims arising from unsuccessful operations between expropriating and expropriated persons.

In case of the start of litigation before the civil courts, the procedure is as follows:

- Within 15 days of the summons, the court shall hear the parties;
- Within eight days from that date, the court rules on the legality of the proceedings, officially appoints experts and sets the period within which they should have submitted their report. This period shall not exceed sixty days. Experts can get all information relevant to the performance of their duties at the office of the Registrar of Real Estate Securities;
- Within eight days of the filing of the expert report, the parties are summoned to a hearing and are heard.

In the month of the hearing, the court decides on the amount of compensation and expenses and on the eviction deadline if the expropriated party seizes them. The judgment is enforceable.

#### a) **Out-of-court mechanism**

All compensations are entirely and exclusively set out in the Congolese Legal and Regulatory Framework. The provisions of the Bank's guidelines will minimize the number of complaints and appeals. The

provisions applicable in this case are a conciliatory approach so as to preserve the rights of the people affected by the Project, while promoting the sound management of the compensation budget.

### **3.1.3 Land Tenure and Delivery System in DRC**

Land tenure refers to the way in which rights in land are held. Because the implementation of project may in a rare number of cases result in acquisition of small portions of land not already under control of the state or traditional authorities, it is useful to outline the DRC land tenure system in order to appreciate the alternative ways in which land can be accessed for the project purposes.

The Ministry of Land Affairs has overall responsibility for the country's urban and rural land and land administration. Within the ministry, various departments are assigned to handle registration, surveys, management of state land concessions (including allocation of concessions), and provide a land-dispute service.

#### **Tenure Types**

Under formal law, the state owns all the land in the DRC; people and entities desiring use-rights to land can apply for concessions in perpetuity or standard concessions. Concessions in perpetuity (concessions perpétuelles) are available only to Congolese nationals and are transferable and inheritable by Congolese nationals. The state can terminate concessions in perpetuity through expropriation. The state can grant standard concessions (concessions ordinaires) to any natural person or legal entity, whether of Congolese or foreign nationality. Standard concessions are granted for specific time periods, usually up to 25 years with the possibility of renewal. Renewal is usually guaranteed so long as the land is developed and used in accordance with the terms of the concession (Musafiri 2008).

Although the formal law applies to all land in the DRC, as a practical matter, application of the DRC's formal law relating to concessions tends to be restricted to urban areas and large holdings of productive land in rural areas. In most rural areas, customary law governs. Under customary law, groups and clans hold land collectively, and traditional leaders allocate use rights to parcels. Rural land used for agricultural and residential purposes has become highly individualized in some areas over the years. Community members have the authority to loan, lease for cash, or sharecrop their individualized plots of communal land, but in most areas they cannot sell or permanently alienate the communal land to people outside the community. As areas have become commercialized, the prohibition against the sale of land to outsiders has relaxed.

#### **Compulsory acquisition of private property rights by government**

Under the Constitution and the DRC's 1977 Expropriation Law (Law No. 77-001), the state owns all land in the DRC and can expropriate land under concession and held by local communities as it deems necessary for public use or in the public interest, subject to payment of compensation. The expropriation process begins with a survey and valuation, followed by issuance of an order signed by the Minister of Land Affairs or a presidential decree (for expropriation of entire zones) identifying the land for expropriation and notifying the concession-holder. Concession-holders have one month to submit any objections and make

a specific request for payment of compensation, If the parties do not agree on the amount of compensation, the law provides that, the court will make the determination.

### **Traditional Authority and Customary Land Tenure**

Congolese law establishes that all land belongs to the State, and it regards occupants using the land as “concessionaires.” Under customary and traditional law (as opposed to the law of the State), the local traditional governance structures, namely the Chefs de Terre, or Land Chiefs, are responsible within each community for distributing land and performing various ceremonies that help maintain good relations between the people and their ancestors. However, under Article 53 of Law 73-021 of 20 July 1973, the State proclaimed that all the land in DRC belonged to it and only the State could govern the sale of land, thus in theory depriving the Land Chiefs of their customary right.

The State does not enforce this provision very frequently, as with the application of the DRC’s formal law relating to concessions tending to be restricted to urban areas and large holdings of productive land in rural areas. In most rural areas, customary law governs. Accordingly, the traditional chiefs, who are not salaried, collect a fee for services rendered in the discharge of their responsibilities, such as in dispute resolution or in the organization of community functions. They sometimes also charge a fee for the allocation of land, although this is in contravention to the law.

Based upon this system, land can be held in customary ownership through generations of a family. The local population of a given village has a usage right over the land given by the village or land chief. This land can be cultivated, or used as a reserve, and reserved land can be left either fallow or entirely unused. Land is usually not sold, but a ceremonial gift is expected from the new land user to the chief and/or to the former concessionaire. The allocation system based on lineages applies to residential areas, bush fields, and prepared land.

However, fields lying fallow for longer than a few years, forests, and water bodies are considered communal property under the authority of the village’s Chef de Terre.

In practice, the majority of affected farmers in the infrastructure footprints indicated that they do not pay a yearly rent, but only provided a gift when they received the land. Impacts to land through acquisition can impact a Land Chief’s ability to allocate land. In addition, Congolese law recognizes the legal role played by the Chef de Groupement and Territorial Administrator in connection with disputes with and between Land Chiefs.

### **3.2 AfDB Involuntary Resettlement Policy**

The African Development Bank (AfDB) Group exists to contribute to poverty reduction in Africa by spurring sustainable economic development and social progress in its regional member countries (RMCs). The Bank Group is committed to avoiding or minimising adverse environmental and social impacts in its projects. As part of this effort, in 2003 it adopted its involuntary resettlement (IR) policy to cover any involuntary displacement and resettlement of people caused by a Bank-financed project.

The policy applies when, because of a Bank project, people residing in the project area are compelled to relocate or they lose their shelter, their assets are lost or livelihoods affected, or their access to natural

resources is restricted. The primary goal of the IR policy is to ensure that when people must be displaced they are treated equitably and share in the benefits of the project that involves their resettlement.

The policy aims to ensure that disruption to the livelihoods of people in the project area is avoided or at least minimised, and that the displaced persons receive resettlement assistance to improve their living standards. It provides guidance to Bank staff and borrowers, and sets up a mechanism for monitoring the performance of the resettlement programmes.

### **3.2.1 Operational safeguard 2 – Involuntary resettlement: land acquisition, population displacement and compensation**

This Operational Safeguard (OS) aims to facilitate the operationalization of the Bank's 2003 Involuntary Resettlement Policy in the context of the requirements of OS1 and thereby mainstream resettlement considerations into Bank operations.

The objectives are: to avoid involuntary resettlement as much as possible, or minimize its impact and when involuntary resettlement is inevitable, alternatives to the project should be considered; ensuring that displaced persons are truly consulted and are given the opportunity to participate in the planning and implementation of the resettlement programs; and ensure that displaced persons receive substantial assistance for resettlement within the framework of the project, so that their standard of living, their ability to generate income, their production capacities, and all of their livelihoods are improved beyond what they were before the project.

#### **i. Scope of application of the OS**

It covers all components of a project, including activities resulting in involuntary resettlement that are directly and significantly related to a Bank-assisted project and necessary to achieve its objectives—whether the resettlement is led by a government, a private sponsor, or both—and carried out or planned to be carried out contemporaneously with the project. It aims to clarify all aspects of impacts related to land acquisition; issues related to physical and economic displacement but not specifically related to land acquisition are dealt with in OS1.

The objectives are to minimize disruption to the affected people, avoid irreversible negative impacts, provide satisfactory temporary services and—where appropriate—compensate for transitional hardships.

This RPF will establish resettlement and compensation guidelines and design criteria to be applied to the sub-projects which will be prepared during project implementation in compliance with the Congolese law and the AfDB's policy on involuntary resettlements.

#### **ii. OS 2 Requirements**

The operational safeguard entails several requirements regarding involuntary resettlement. These include the following:

- **Project design**

The borrower or client considers feasible alternative project designs, including re-siting and re-routing, to avoid or minimize physical or economic displacement, while balancing environmental, social, and financial costs and benefits.

- **Consultation, participation and broad community support**

The OS requires that the affected people be consulted about their preferences pertaining to resettlement and gives them genuine choices among technically, economically, and socially feasible resettlement options. In particular, they are given the opportunity to participate in the negotiation of compensation packages, and in decisions on resettlement assistance and how standards of living, income-earning capacity, production levels and overall means of livelihood might be improved through the Resettlement Action Plan.

They are also consulted about decisions on eligibility requirements, the suitability of proposed resettlement sites and the proposed resettlement timings. The consultation of the affected people should follow all the requirements of stakeholders' consultation, participation and broad community support as per guidelines provided in the AfDB IESIA Guidance notes.

- **Resettlement planning**

The borrower or client (in this case the Congolese Government through Ministry of Energy) carries out a comprehensive socioeconomic survey— in line with international standards for social and economic baseline studies as agreed to in the environmental and social assessment process—including a population census and an inventory of assets (including natural assets upon which the affected people may depend for a portion of their livelihoods). This survey identifies the people who will be displaced by the project; all the relevant characteristics of those people, including conditions of vulnerability; and the magnitude of the expected physical and economic displacement.

The baseline survey includes gender and age-disaggregated information pertaining to the economic, social and cultural conditions of the affected population. It contains various official materials (maps, numerical records, special reports, research and knowledge pieces, etc.), records of interviews with stakeholders about their preferences, supply chain due diligence material, and a protocol to fill any gaps in data and ancillary information, and it identifies opportunities to improve community welfare. The survey process also ensures that ineligible people, such as opportunistic settlers, cannot claim benefits. This information from the survey will determine the extent and magnitude of displacement and thus aid in planning effective resettlement.

At a minimum, the borrower or client conforms to any relevant host government procedures. In addition, or in the absence of host government procedures, the borrower or client establishes a cut-off date for eligibility that is acceptable to the Bank. The borrower or client documents the cut-off date(s) and disseminates information about it (them) throughout the project area of influence in a culturally appropriate and accessible manner, before taking any action on clearing land or restricting local community access to land.

- **Resettlement Action Plan**

The OS 2 requires the borrower or client prepares a Full Resettlement Action Plan (FRAP) for the following nature of displacement:

- (i) any project that involves 200 or more persons (as defined by the involuntary resettlement policy),  
or

- (ii) any project that is likely to have adverse effects on vulnerable groups.

The outline of a typical RAP can be found in Annex A of the Involuntary Resettlement policy and the related IESIA Guidance Note.

For any project in which the number of people to be displaced is fewer than 200 people and land acquisition and potential displacement and disruption of livelihoods are less significant, the borrower or client prepares an Abbreviated Resettlement Action Plan (ARAP). Annex B of the Involuntary Resettlement policy describes an ARAP, and related guidance can also be found in the relevant IESIA Guidance Note.

In the DRC mini-grid programme, the extent of displacement is anticipated to be very minimal and thus an ARAP will be a tool for addressing all issues related to involuntary displacement. An outline of an ARAP is presented in section 8 of this RPF.

The UCM shall submit the ARAP as a formal document to the relevant national, local and/ or municipal agencies and to the Bank. The FRAP is finalised as a supplement document to the Environmental and Social Impact Assessment report, and the ARAP is finalized as a supplement document to the Environmental and Social Management Plan (ESMP).

The Bank posts the ARAP in its Public Information Centre and on its website for public review and comment, in accordance with the Bank's ESAPs.

The ARAP is released to the public at least 30 days before Board presentation.

### **3.3 Eligibility**

#### **3.3.1 Eligibility criteria for people affected by the project**

The Congolese Law recognizes the modern law and customary law. All persons affected by the project, whether they own property (legally or customarily) and have been identified in the project footprint area, are considered eligible to the envisaged compensation. This provision does not conflict with the Bank's guidelines on the matter.

- i. Further, the Bank Policy on population involuntary resettlement describes the eligibility criteria: those who have formal legal rights to land or other property, asserted by the laws of the country, and
- ii. People who do not have formal legal rights to land or other property at the time of the census, but who can prove their rights under the customary laws.

In this project, the customary owners include the following two kinds of properties:

- i. properties acquired on the basis of ancestral rights to land ownership,
- ii. properties acquired through deeds of sale recognized by the community.

People having no rights, legal or otherwise, who may be recognized on the land they occupy, but are not included in the two categories described are entitled to relocation assistance to enable them to improve their living conditions (compensation for loss of income generating activities, livelihood, ownership of common resources, farms, etc.), provided that they had occupied the Project site before the deadline for eligibility. The Bank policy applies to all those affected, regardless of their status, whether they have

formal titles, legal or customary rights, provided they occupied the premises before the eligibility termination date.

### **3.3.2 Eligibility Date**

The deadline for eligibility is the end of the census of affected people, their building property, agricultural or trade assets in the Project area. Beyond that date, occupancy and/or exploitation of the resource targeted by the Project can no more be concerned by compensation. The deadline for eligibility set by the Government of DRC for the Project is the closing date of the preparatory work in administrative phase.

### **3.4 Assessment of compensation and compensation for losses**

The estimate of compensation levels refers to Congolese practices, such as the commodity price list, to the principles adopted during public consultations while respecting the requirements of the Bank's procedures.

#### **3.4.1 Compensation procedure**

The compensation process includes the following steps as for the success of expropriation for public interest. The preparations for the notice of the Decision of Public Interest triggers the procedure:

- i. Disclosure and information on eligibility criteria and compensation principles;
- ii. Estimation of individual and collective losses,
- iii. Discussions of compensation to pay to those affected,
- iv. Conclusion of agreements and/or attempt of mediation
- v. Payment of compensation
- vi. Monitoring of displacement and resettlement
- vii. Support to vulnerable people,
- viii. Settlement of disputes.

### **3.5` Organizational Responsibility**

#### **3.5.1 Institutional provisions**

According to the Congolese institutional provisions, the responsibility for the implementation and monitoring of RPF will be organized and chaired by the Ministry of Energy in its capacity as main Project/programme executing entity and through its dedicated structures such as UCM. It will use the services of the provincial and Local Authorities on land issues.

The persons affected by the project will receive financial compensation in accordance with Act No. 77/01 of 22 February 1977 on Expropriation for Public Utility in the Democratic Republic of Congo and the Involuntary Resettlement Policy of the Bank. This compensation shall amount to the value of all the assets that each person affected by the Project has been dispossessed of. It will be conducted by the Committee responsible for its execution to: (i) recognize the legal and financial situation of the expropriated assets, and (ii) work towards the conclusion of an agreement between the parties concerned by expropriation of the value of the property to be expropriated, and, within two months of the date of its entry, renewable



once, for a period of one month. To this end, it has all the powers necessary to recognize the rightful owners at the time of referral.

### 3.5.2 Resettlement execution Entity

The resettlement process will include establishment of resettlement implementation Committee (RIC) attached to the Ministry of Energy and its dedicated structure i.e. UCM. In collaboration with the other government decentralized services Institutions, it will ensure the smooth running of the Plan.

This committee will be composed of the representatives of the UCM, GEEC, Ministry of lands, and the Ministry of Agriculture. It is placed under the chairmanship and supervision of the Ministry of Energy assisted by a notary who acts as secretary. Representatives of local government (planning services, land registry, decentralized administration...) and civil society (NGOs, associations, etc. ...) are involved as members in the committee's activities.

## 4.0 SOCIAL AND ECONOMIC STUDIES

### 4.1 Affected Properties and identification of people affected by the Project.

The census, will be conducted in order to identify the project PAPs and their associated properties. The persons affected by the Project (PAPs) people are usually categorized according to the right of occupation, the nature and severity of the expropriation. In this programme, the categories of PAPs will be defined in the following cases:

i. **total or partial loss of piece of land:**

- a) for the total loss; the piece of land is replaced by a similar piece of land. The payment in cash is allowed when the owner voluntarily accepts the loss of land. The land market can offer pieces of land with similar characteristics within a reasonable distance with the consent of the owner,
- b) partial loss, two cases are considered, either the *structures can be rearranged* on the remaining part of the parcel and payment is made for the lost land (in m<sup>2</sup>) and for structures to be rebuilt (on top) which is normal or the *structures cannot be rearranged*, then the case is treated as a complete loss that requires replacement of the land.

ii. **Loss of built assets, total or partial agricultural assets and infrastructure:**

- a) **For the total loss**, each asset and / or infrastructure (Fruit trees, crops, wells, fences, etc.) is valued at its cost full replacement,
- b) **for the partial loss (infrastructure)**, the lost portion is valued at its full replacement cost.
- c) For the partial loss, two cases are considered, either the *structures can be rearranged* on the remainder of the plot and the payment is made for the lost land (m<sup>2</sup>) and for structures to be rebuilt (on the top) which is normal or *structures cannot be rearranged*, then the case is treated as a complete loss that requires replacement of the land.

When expropriation relates to a part that is as large as the remaining structure or infrastructure that is no longer a usable portion, the acquisition is treated as a total loss.

iii. **Loss of income**

e.g. **Loss of rental rights.** Assistance to identify and resettle to a new home for the family.

The severity of impact determines the compensation and assistance to the affected persons.

- If a part of a piece of land or even the whole piece of land not having any development is lost, compensation is limited to the value of the land acquired;

- If the whole occupied piece of land is lost but the occupants can return once redeveloped, then the compensation covers the value of the land lost, the value of lost structures and the total cost of redevelopment of the piece of land;
- If the whole piece of land is lost and there is no adjustment of the structures, compensation includes the value of the land and the buildings, in addition to the costs of legal acquisition of a new piece of land and the moving costs.

#### **4.2 Assistance to vulnerable people**

Assistance to vulnerable people will take the following forms, depending on the needs and demands of the persons concerned:

- i. Assistance in the compensation procedure (further explanation of the process, ensuring that documents are understood, support the person at the bank so that they can count properly),
- ii. Assistance in the period following payment so that the compensation is made safe and that the risks of misuse or theft are limited;
- iii. Assistance in moving: to provide the means of transport (vehicle) and close support, help the person find their resettlement site (plot) to ensure that others do not come to settle in it, etc.
- iv. Assistance in rebuilding: provide a mason or materials, or to fully support the reconstruction
- v. Assistance in the period following the relocation, especially if the solidarity networks (food aid, health monitoring, etc.) benefited by the vulnerable person cannot be immediately restored;
- vi. medical assistance where necessary during critical periods, especially during resettlement and transition thereafter.

### **5.0 MECHANISMS OF ASSISTANCE AND MONITORING OF AFFECTED PEOPLE**

#### **5.1 Consultation and dialogue.**

Upon resettlement implementation, briefings will be organized with the support of traditional chiefs, and an expert in social communication. They focus on resettlement implementation mechanism and the compensation principles and methods. During this phase, the RIC will prepare certificates of compensation agreement and have them signed by those affected.

#### **5.2 Specific assistance for vulnerable people**

As part of resettlement, people considered vulnerable are those affected with low income. These people can be made even more vulnerable during a displacement operation. They are likely to be excluded from the benefits of the compensation operation and suffer only from the disadvantages of the system, for instance due to negligence, for not being able to attend information briefings, or not being eligible for compensation by omission, etc.

#### **5.3 Monitoring and evaluation**

The UCM will task an independent Consultant to evaluate the program. The external audit shall verify the adequacy of resettlement implementation against the objectives set out, the provisions of the Congolese regulations and the Bank's guidelines. It shall also assess the level of satisfaction of various categories of people impacted by the Project in relation to the terms of compensation. The terms of reference for the external evaluation of resettlement implementation shall include:

- i. the conduction of opinion poll with various representative groups within the population affected by the Project, giving indication of the number of disputes, number of PAP activities

reconstruction, and then highlighting through these information, the degree of satisfaction, and the complaints if any;

ii. the assessment of the following items, taking into account the general institutional and technical context of the operation:

- organizational arrangements set in place for resettlement;
- alignment of human and material resources with the objectives of the plan;
- adequacy of the communication-consultation mechanism and monitoring-internal evaluation, with the social and economic conditions of the affected people;
- performance evaluation in terms of commitments (schedule compliance);
- adequacy of budgets provided for so as to achieve the planned objectives, and analyzing the any over-spend or underspend;
- assessing if fairness of the compensation, the fairness of pending disputes, and the risk run by the Project because of these disputes;
- assessing the level of the Project sidewalks released;
- assessing the level of PAP recovery and activities continuity.

## **6.0 COMMUNITY PARTICIPATION**

### **6.1 Public Consultation**

Stakeholders' engagement (as highlighted in this ESMF) shall be carried out based on a participatory approach and relied, on the one hand, on on-site visits, the use of basic documents, and, on the other hand, on interviews with centralized and decentralized technical services, traders, socio-professional groups, local residents, administrative authorities, mayors and traditional leaders. This approach has resulted in (i) enhancing the project, developing and refining the alternatives by taking into account the concerns of all stakeholders, (ii) promoting the involvement of the local population in the project, (iii) creating an atmosphere of trust and cooperation underpinned by an objective approach.

The UCM and the resettlement committee shall hold meetings with PAP in the presence of the governor, the mayors of the municipalities concerned, traditional leaders and other relevant decentralized Institutions.

At each of the meetings held, the content of the Project and its economic, social, and environmental stakes will be outlined. Information will be collected including the perceptions and expectations vis-à-vis the project as well as views and comments of stakeholders. There emerges from these consultations, the will of the interviewed people and administrative authorities and people's representatives to support the Project and particularly advocate it in such a way that the Project:

- avoids or reduces to the maximum the destruction houses and involuntary displacement of people. If necessary, they recommend the compensation of properties including the compensation of the persons directly affected by the Project due to loss of trees/crops;
- may use local labor and train it to perform menial tasks during future construction work;

## **6.2 Informing the population to be expropriated**

As part of the Abbreviated Resettlement Action Plan for the people affected by the Project, information sessions, focusing on the entire project to inform people about the level of preparation of the Project and the principles of compensation of those affected.

The principles agreed as the basis in setting compensation are the following:

- iii. The movement of people affected by the Project fits into the logic of expropriation and as such should be done in line with the Congolese regulations;
- iv. in the case where the Congolese legislation however harms these people, some provisions of the Bank will be applied, if such provisions are more favorable.
- v. All persons affected must be compensated without cultural or social or gender discrimination, insofar as these factors do not increase the vulnerability of these affected persons;
- vi. Affected people should be compensated at replacement cost without depreciation, before starting work on the Project;
- vii. The compensation process must be fair and respectful of human rights of the people affected by the Project;
- viii. Cash compensation is preferred in respect of individual losses, including income for commercial use. But in the case of equipment or services, compensation options - either in cash or in kind - will be subject to a more detailed estimate so as to offer to the affected persons the option of their choice;
- ix. Compensation in kind includes rebuilding or upgrading affected structures (properties, fences, etc.)
- x. Other measures will accompany the program in the interests of fairness and impartiality of those who will be affected by the Project.

An emergency assistance is planned for to help vulnerable people that are usually very affected by any change, and who do not have financial resources to adapt and avoid finding themselves in a more precarious situation. Accompanying measures and economic support will include relocation allowances, transport allowances, etc. This assistance will be financed from the budget line earmarked “unforeseen expenditures”. To ensure that emergency assistance is provided only to those who are actually vulnerable, the Resettlement Implementation Committee (RIC) will be asked to validate each request made for assistance.

## **7.0 DESCRIPTIONS OF COMPLAINTS AND GRIEVANCE REDRESS MECHANISMS**

Grievance procedures for programmes such as these in the Congolese context differ depending on the nature of programme being implemented. However, in general terms, it is recommended that any matter decided upon by an authority needs to be taken to the immediate superior authority as an appellant authority. Aggrieved parties also have access to the Arbitration system and when all else fails, have recourse to the court system for settlement of grievances.

In this project and with particular reference to resettlement, once the resettlement plan is approved and individual compensation contracts are signed, affected individuals would have been informed of the

process for expressing dissatisfaction and to seek redress. It is however, anticipated that land acquisition would be avoided or at least minimized, thereby reducing complaints arising from loss of land or resources as a result of implementing any sub-project activities.

To this effect the grievance procedure will be simple, administered as far as possible at the local level to facilitate access, flexible and open to various proofs taking into cognizance the fact that most people are illiterate requiring a speedy, just and fair resolution of their grievances. The framework of the GRM in this project will be as described in the previous sections of this ESMF.

## **8.0 AN OUTLINE OF AN ABBREVIATED RAP**

1. A census survey of the expected size of the displaced persons, their socio-economic status including the value of their assets and other sources of livelihood should be carried out.
2. The displaced people and the host population should be consulted about acceptable project alternatives and should be informed about project's potential impacts on them.
3. Description of compensation options to be offered and other resettlement assistance to be provided should be documented and discussed with the resettlers including their preferred choice. It would be preferable to use local NGOs in this process.
4. Institutional responsibilities for implementation of the resettlement plan including involvement of NGOs in monitoring the plan should be established; and
5. The schedules, budget and sources of funds should be agreed upon with the executing agency.