Simplified Approval Process
Annex 12: Environmental and social action plan

Enhancing Climate Information Systems for Resilient Development

Liberia

GREEN CLIMATE FUND

1. INTRODUCTION

The African Development Bank (AfDB) requests the Green Climate Fund SAP grant for the Government of Liberia to support the country's climate information systems.

According to the GCF's environment and social management procedures, the project is classified as Category C that is, the project activities have minimal or no adverse environmental and social risks and/or impacts. This Environmental and Social Action Plan (ESAP) has been prepared in compliance with the GCF environmental requirements.

Overall, the project activities are expected to have positive environmental and social benefits, including indirectly supporting the development of a vibrant and sustainable environment by enabling accurate predictions for better flood management and risk-informed planning of agriculture and fisheries, strengthened ecosystem resilience, and improved soil, air, and water quality. The project will also improve the health, safety, comfort, and security of the most vulnerable people and communities living along the vast erosion-prone coastline by reducing the number of households impacted by hydromet-related disaster events.

The ESAP aims to identify and manage minor risks and impacts that the proposed project may incur to ensure that the project design and implementation comply with the laws, policies, and environmental regulations of Liberia, as well as environmental safeguards policies of the GCF and the African Development Bank.

2. PROJECT DESCRIPTION

The "Enhancing Climate Information Systems for Resilient Development in Liberia (Liberia CIS) project aims to strengthen further Liberia's climate-related observing and monitoring capabilities, early warning and early action systems, and other environmental-related information systems. It seeks to drive a paradigm shift towards evidence-based climate-informed decision-making, planning, and response. The overarching goal is to integrate green growth, environmental resilience, and adaptation into national development planning through effective climate information systems.

2.1 The project will achieve its objective through the following six components designed to strengthen the weather and climate value chain in Liberia by enhancing proper linkages between production, support, and service systems:

(a) **Component 1: Enhanced Disaster Risk Knowledge of individuals and institutions across the country** seeks to improve the understanding of the risk associated with different hydrometeorological hazards by establishing a decision support system consisting of data management, technical assessment, and decision-making components. Activities include i) Establishment of Guidelines and risk modelling tools, (ii) Establishment of internet based geospatial platform (iii) Climate hazards assessments, communities consultations and national database, (iv) Community based actions and capacity building,

(b) Component 2: Enhanced Detection, Monitoring, Analysis and Forecasting of the Hazards and Possible Consequences aims to strengthen the weather, water, and climate value chain by improving the existing production, support, and delivery systems and establishing a robust hydromet forecasting system. The project will also strengthen the linkages between the two systems to supply services that will guide decision-making. Activities include (i) Develop and operationalize an automated decision management system for climate services, (ii) Establishment of Meteorological and hydrological lab within the LMS consisting of forecasting, observation and instrumentation, remote sensing and satellite, climatology, and agrometeorology units, (iii) Strengthening the environmental monitoring lab at the EPA, (iv) Installing solar systems for sustainable and uninterrupted power supply (v) NMC

Rehabilitation (vi) Enhancing the Hydrometeorological observation networks (vii) Developing good understanding of QMS, gap analysis and workplan (viii) QMS Policy Development and policy related training (ix) QMS ISO 9001 Certification (x) Establishing an E-infrastructure for weather and seasonal forecasting with support system, (xi) Establishment of Communities of Practice, (x) Production of seasonal forecasts and related trainings

(c) **Component 3: Improved Warning, Dissemination, and Communication** seeks to enhance the communication system for service delivery and timely communication of warnings about imminent weather and climate hazards to people and communities at risk. The activity will strengthen the delivery of PWS - including developing new information products for vulnerable communities and the main weather-climate- and hydrology-dependent sectors of the economy. The PWS will provide the appropriate mechanism for translating and interpreting meteorological and hydrological data into impact-based forecasts and communicating this information to sector-specific areas, including disaster risk management. Activities include (i) Trainings, surveys, engineering assistance and impact evaluation of dissemination measures, (ii) Establishment of Public Weather Service studio, (iii) Delivering improved impact based risk information service, (iv) Establishing community-based EWS communication mechanisms.

(d) **Component 4: Improved Preparedness and Response Capabilities through forecast-based financing (FBF) mechanism** aims to enhance the preparedness and response to weather- and climate-related hazards using a proactive mechanism called FBF. FBF is an innovative mechanism that supports the pre-planning of early actions at community and government levels. Early action is grounded on credible forecasts and funded and implemented before a climate shock. These early actions minimize loss and damage caused by climate hazards and reduce the need for humanitarian assistance in their aftermath. Activities are closely aligned with national priorities and leverage local field expertise, and include (i) Developing and updating legislations in order to transform LMHS into a semi-autonomous agency, (ii) Strengthening Liberia´s Disaster Management Framework, (iii) Consultations on FbF, and national dialogue, (iii) Delivering on early actions, consultations and roadmaps, (iv) Dialogue, peer to peer learning, capacity building and pilot testing, (v) Establishment of Liberian Climate Change Trust Fund.

(e) **Component 5: Coordinated Project management and implementation across all climate information service units in Liberia** aims to ensure the right combination of skills, systems, and tools for effective project oversight, management, and implementation to ensure the achievement of expected results. Activities include (i) Facilitation collaboration and organizing study tours, (ii) Recruitment of PMU staff, Preparation of the Operational manual and Project supervision, (iii) Monitoring, Evaluation and Learning System, (iv) impact evaluation

2.2 Project Activities likely to trigger safeguard policies

Under Component 2, the project proposes to rehabilitate the forecast and observing office, a building situated between the marshalling area and the control tower. Part of this renovation activity will focus on expanding the building to provide space to house the National Meteorological Centre. Other activities include the installation of solar systems to support sustainable and uninterrupted power supply and the establishment of hydrological and monitoring labs. Solar power systems are proposed for the Liberia Meteorological Service (LMS), Liberia Hydrological Service (LHS), Environment Protection Agency

(EPA), and National Disaster Management Agency (NDMA) to combat irregular power supply. The power system will provide backup power solutions for essential hydromet systems, including the high-performance computer, emergency power electronics, and full-size office equipment during a power outage.

Environmental risks associated with these activities include those related to construction and installation works that are likely to have pollution, resource use, and occupational impacts.

3. RELEVANT ENVIRONMENTAL REGULATIONS

3.1 The Government of Liberia has instituted policies and regulations to ensure environmental protection, climate resilience, and sustainability. All project activities will be subject these regulations particularly the Environmental Protection and Management Law (2003) that provides the legal framework for the sustainable development, management and protection of the environment and natural resources by the EPA in partnership with relevant ministries, autonomous agencies and organizations as well as in a close and responsive relationship with the people of Liberia. The law also makes provision for environmental screening and preparation of environmental impact assessment, *amongst others*, in development projects.

The National Environmental Policy of Liberia provides a systematic and logical framework by which to address environmental issues. The policy calls for an environmental impact assessment on all major developmental, socio-economic, and land use activities in any form, which may have an adverse effect/impact on the environment to one degree or another. It also sets the benchmark for addressing environmental problems in the medium and long term and the context for financial donor support to a particular sector and non-sector projects. The policy demonstrates Liberia's commitment to the sustainable management of the environment and natural resources.

Other relevant regulations, *amongst others*, include:

(a) Environmental Protection Agency (EPA) Act, 2003,
(b) National Environmental and Occupational Health Policy, 2010

The EPA Regulations make provisions for both assessment and environmental management systems. The regulations prohibit commencing an undertaking/activity without prior registration and Environmental Permit (EP). The Regulations also define the relevant stages and actions, including registration, screening, Preliminary Environmental Assessment (PEA), Scoping and Terms of Reference (ToRs), EIA, review of EA reports, public notices and hearings, environmental permitting and certification, fees payment, ESMP, suspension/revocation of a permit, complaints/appeals, etc.

3.2 The African Development Bank's Integrated Safeguards Policy Statement sets out the Bank's commitments to (i) ensure the systematic assessment of environmental and social impacts and risks apply the Operation Safeguards (OSs) to the entire portfolio of Bank operations; (ii) support clients and countries with technical guidance and practical support in meeting the requirements; (iii) implement an adaptive and proportionate approach to environmental and social management measures to be agreed with clients as a condition of project financing; (iv) ensure that clients engage in meaningful consultations with affected groups; and (v) respect and promote the protection of vulnerable groups, in a manner appropriate to the local context. The OSs are a set of five safeguard requirements that Bank clients are expected to meet when addressing social and environmental impacts and risks, and include:

(a) Environmental and Social Assessment (OS 1)
(b) Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS 2)
(c) Biodiversity and Ecosystems Services (OS 3)
(d) Pollution Prevention and Control, Hazardous Materials and Resources Efficiency (OS 4)
(e) Labor Conditions, Health and Safety (OS 5)

3.3 Finally, the project will adhere to the GCF Environmental and Social Management System and any obligations African Development Bank would incur in the Accreditation Master Agreement and the Funded Activity Agreement. The GCF adopted the International Finance Corporation (IFC) Performance Standards to advance environmental and social sustainability of all operations. These performance standards are listed below and broadly complement the AfDB's Environment Safeguard Standards

(a) PS 1: Assessment and Management of Environmental and Social Risks and Impacts. In compliance with PS 1, the project was screened for environmental and social risks.

(b) PS 2: Labour and Working Conditions. The project activities require the employment of workers for the renovation of NMC buildings, monitoring labs, and installation of solar systems.

(c) PS 3: Resource Efficiency, Pollution Prevention, and Management of Chemicals and Wastes. Construction activities will likely increase resource use and the generation of wastes and pollution.

(d) PS 4: Community Health, Safety, and Security: Project activities (including construction, installation of solar panels, radars, and monitoring labs) may generate hazardous materials that are likely to pose risks to the health and safety of communities within the intervention area.

(e) PS 5: Land Acquisition and Involuntary Resettlement. Project activities do not involve resettlement, land acquisition, or economic displacement of persons and communities. All activities will be on existing land owned by the government.

(f) PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. The project activities will be implemented on existing systems, and will not modify natural habitats or protected areas. Vegetation clearing may, however, be required during the construction and installation of radar structures.

(g) PS 7: Indigenous Peoples: No indigenous people on existing project sites.

(h) PS 8: Cultural Heritage – Project activities will not be implemented in areas with cultural heritage values.

4. Environmental and Social Risk Assessment and Management Plan

The project risks are assessed against the IFC Performance Standards for Environmental and Social Sustainability in the table below. The potential impacts, mitigation measures, and management actions are proposed

Environmental and Social Mitigation Implementation and Monitoring Plan

Summary of risks	**Mitigation measures**	**Risk significance**	**Responsible party/person**	**Schedule**	**Expected results**	**Cost/Budget**
This contains the description of risks and can be derived from the responses to the screening questions in Part B2.	*Options to avoid, reduce, mitigate risks and impacts. This may also indicate additional due diligence and specific management plans*	*This contains a description of the overall level of risk**	*Individual person, unit, or entity tasked to carry out the mitigation measures*	*Timing of implementation of measures including any additional due diligence and management plans and may depend on the stage of implementation*	*Expected outputs of the measures*	*Estimated cost of carrying out the measures*
Occupational risks Establishment of a temporary workforce as part of project activities may pose occupational health and safety risks to workers. Handling of machinery, electrical hazards, and handling of hazardous waste and chemicals may result in health impacts for workers on the construction site.	Project contractors will be required to provide occupational health and safety plans for workers and this will be built into the terms of references published for procurement. The plans must include onsite first aid kits, Personal Protection Equipment, Hygiene inspections to avoid the spread of viruses, emergency response, fire safety alarms, training of workers on workplace safety, and prohibit the use of hazardous materials such as Asbestos.	Low	Contractors, Safeguards Officer	At the start of construction and implementation of Activities 2.3, 2.4, and 2.6	Fair treatment and safety of workers in compliance with national labour and employment laws.	Included in Contractors' contract
Risks due to resource use and pollution **Construction Phase**: - The rehabilitation of the NMA center will generate construction wastes and dust, generation of electronic wastes from the installation of solar	The project will ensure construction management practices per the environmental requirements of the GoL. Contractor shall provide an Emissions Monitoring Plan to ensure frequent checking of emissions by	Low	Contractors, Safeguards Officer	At the start of construction and implementation of Activities 2.3, 2.4, and 2.6	Efficient use of resources and control of pollution.	Included in Contractors' contract

power systems, weather radar systems, electrical installation, may have detrimental impacts on air, land, and water quality. - Soil/water contamination due to the use of hazardous materials or disposal of broken or damaged solar cells during installation, operation and decommissioning - There will be an increase in resource consumption due to the renovation of the NMC office and related structures. It will likely pose pressure on localized water and energy supplies in the area of intervention.	construction machinery and vehicles; The contractor will prepare a Solid Waste Management Plan that must make provision management of debris, waste disposal, recycling of materials, labeling of hazardous materials, Construction workers will be trained on environmental protection measures. Recycling of waste materials and water. Construction staff will be trained on water conservation practices In the case of the occurrence of toxic/hazardous chemical materials, it will be handled according to hazardous waste management best international practices.					
Operation Phase: During the operation phase, waste generated from the project will include liquid and electronic wastes hydrological and environmental monitoring labs, end of life, or damaged solar panels and batteries.	Damaged or decommissioned solar panels and batteries will be appropriately disposed in line with local laws or returned back to the vendor as part of buyback arrangements. Hazardous wastes will be disposed of in accordance with the GoL waste disposal act.	Low	Safeguards Officer of relevant climate information institutions (EPA, LMS, and LHS)	At the end of construction End of the life cycle of solar modules (usually 25 years) and batteries.	Sustainable waste management procedures implemented	Included in operation and maintenance costs of structures/buildings.

Risks to community health, safety, and security Construction activities and movement of heavy vehicles may impact public safety. Similarly, emissions and noise from the site may impact the health of community residents.	Public Safety plan will be developed, making provisions for training of operating of heavy vehicles, set appropriate speed limits to avoid accidents, placement of construction signage in accident/prone area, provision of alternate routes for the public where necessary, and the regular consultation of the community that may be directly affected by project activities and incorporates their inputs in the mitigation measures.	Low	Contractors, Safeguards Officer	At the start of construction and implementation of Activities 2.3, 2.4, and 2.6	Health and safety of communities protected	Included in Contractors' contract
Risks associated with biodiversity loss Possible clearing of vegetation from renovation and installation of radar	Incorporate technical design measures to minimize unnecessary removal of trees and vegetative cover; Reforestation plans (using local species) established whenever application. Locations for AWS, weather radars, and other related structures will be situated outside/at a reasonable distance from the environmentally sensitive areas	Low	Contractors, Safeguards Officer	At the start of construction and implementation of Activities 2.3, 2.4, and 2.6	Biodiversity protected	Included in Contractors' contract

**Risk significance. The probability of occurrence is the likelihood for a risk to occur and can be characterized in terms of the degree to which it will happen (for example, the UNDP screening procedure uses "expected, highly likely, moderately likely, not likely, and slight"). The impact or magnitude of risks is the description of how severe the impacts would be if it were to occur (for example, "critical, severe, moderate, minor, and negligible"). A significance value of the risk (for example low, medium, high) can be obtained by combining the probability and impact values. The risk significance indicates the relationship between probability and severity or magnitude of impacts. There is no single technique to determine the significance of risks nor will it apply in all situations. The entities and organizations that will be implementing the activities will need to determine which technique will work best for each situation. Determining risk significance would require an understanding of activities and locations, the urgency of situations, and objective judgment.*

5. Stakeholder Engagement Plan

The proposed consultation and stakeholder engagement strategy outlines the processes and procedures to ensure the continued participation of stakeholders throughout the project implementation. It will ensure that the climate forecast needs and appropriate dissemination channels of respective stakeholders (end-users and institutions) are understood and incorporated into the project activities. The stakeholder engagement plan aims to foster project community relations, participatory project impact monitoring, information sharing, and disclosure, as well as the opportunities for stakeholders to raise their concerns and submit their opinions.

A stakeholder map will identify all stakeholders at the national, local and district levels including climate information institutions, relevant sectors (agriculture, transport, environment, etc.), disaster risk reduction committees, civil society organizations, local and national government departments, NGOs and private sector actors, district officers and community-based organizations such as farmer cooperatives, as well as women and youth groups.

In general, the project proposal and design have been informed by multiple stakeholder consultations comprising different ministries, departments, and agencies, including the Liberia meteorological and hydrological services, and private sector stakeholders, who participated in a workshop to elaborate perspectives on climate change and climate information needs in the country. More so, the apparent knowledge gaps concerning climate risks, hazards, and associated vulnerabilities were revealed in a survey conducted as part of the base assessment for this project. Hence, the project includes a strong focus on community engagement, training, and "Last Mile" communication solutions to elevate understanding of climate risks and achieve sustainable change in behavior among local communities.

5.1 Stakeholder Engagement Strategies

The project proposes the following mechanisms to advance the engagement of all stakeholders.

Public consultations: Consultations have been conducted as part of the project preparation process, the EPA and other relevant institutions will convene dialogues with all stakeholders upon project approval to facilitate information sharing and participatory planning.

Community mobilization: Communities will be mobilized prior to commencement of construction activities to raise awareness about safety precautions, particularly for those in close proximity to the project infrastructure.

The project will leverage the expertise of the implementing partner International Federation of the Red Cross Red Crescent (IFRC) to facilitate connections with communities on early warning systems and forecasting. The Red Cross partners will support the establishment of community early warning systems, promote their connection to national early warning systems and enable effective forecast-based financing (FbF) mechanism, to ensure climate-informed decision-making, planning, and response by and for the communities most at risk from climate shocks and extreme weather events.

Conduct community level consultation – Community actors such as community chair, women and youth, persons with disabilities, development committees, and farmer cooperatives are critical to the engagement process. The community consultation sessions will help define factors that make people at risk vulnerable and exposed to selected hazards, response mechanisms, climate information needs assessment, and tailored early warning systems and dissemination channels. The consultation will be facilitated through the Community-Based Action Teams.

Targeted consultations: The EPA, in collaboration with implementing partners, will organize in-depth interviews, focus group discussions with the relevant stakeholders, including sectors. The frequency of the consultations will depend on the demand for stakeholder input or on regulated feedback schedules.

Feedback: Feedbacks will be provided by the EPA to all stakeholders, including the affected communities, to address needs, complaints, and mitigation management planning.

Incorporation of proceedings into management decisions: The outputs from the consultation and information sharing meetings will serve as input into management decisions. The views and opinions expressed by target groups (farmers, women and special interest groups) will form the basis upon which interventions will be designed and implemented

The detailed schedule of the stakeholder engagement activities shall be developed by the EPA when the project has been approved, and the project management unit established.

6. Grievance Redress Mechanism

The Grievance Redress Mechanism proposed here spans the entire project implementation and will cater to both the directly and indirectly affected population/beneficiaries. The overall objective of the GRM is to provide a system of procedures and processes that provides for addressing and tracking environment and social concerns of affected or potentially affected people and communities at the local level transparently and rapidly.

The GRM will be accessible to diverse members of the community, including women, senior citizens, and other vulnerable groups. Culturally appropriate communication mechanisms will be used both to spread awareness regarding the GRM process as well as complaints management.

The scope of the grievance mechanism is limited to project-related issues affecting the community and other external stakeholders, on the other hand, cases involving workers and occupational health and safety will be handled through the internal procedures of the Contractors. It will be the responsibility of the EPA to ensure that the grievance mechanism functions appropriately and is respected by all parties, including Contractors and any other project service providers.

Wherever possible, the GRM project-related grievances should be resolved through the existing community-based systems for grievance resolution. It is, however, acknowledged that not all cases could be resolved within the traditional system; as such other higher authorities have been proposed to follow up on the unresolved cases, using the judicial system as a last resort.

Complaints will be submitted in writing on standard forms to the EPA Safeguards Unit, or through community leaders. The received complaints will be registered in the project's database and then forwarded to the relevant office/officer.

The case will be investigated, and a fact-finding mission may be organized together with the complainant and with the concerned community leaders as witnesses. Proposals on grievance resolution will be discussed, and the complainant will be advised accordingly. Upon acceptance by the complainant and the actual implementation of the remedy actions, the complaint will be signed off as resolved.

The grievance mechanism shall ensure safe, confidential, non-judgmental, and ethical reporting systems primarily related to sexual and gender-based violence and exploitation of child labour.