The Scope of the National Climate MRV System

Guinea

March 2020

BASELINE MRV SCOPING STUDIES: TERMS OF REFERENCE

To support country climate MRV capacity development priorities in West Africa, Environment and Climate Change Canada (ECCC) organized a High-Level Regional Technical Consultation on "Relevance, Effectiveness and Alignment" in March 2020 in Abidjan, Côte d'Ivoire. In order to inform the discussions, domestic technical expert consultants in each country prepared comprehensive scoping studies on the status of their respective national climate MRV systems.

Each country's report identifies and compiles:

- The needs and ambitions of the Country Climate MRV Team;
- A list of the relevant key actors and institutions involved with climate MRV—including GHG emission inventories, GHG mitigation actions, climate finance, climate impacts and short-lived climate pollutants (SLCPs);
- The various MRV capacity building initiatives in the country;
- The results from the novel survey of key actors and institutions on needs and challenges related to climate MRV;
- A knowledge base consisting of published reports and other information resources related to the country's climate MRV system;
- Specific recommendations for capacity building priorities to make national climate MRV systems more relevant and effective.

For more information on this MRV Scoping Study, please contact the Domestic Technical Expert – Mrs. Oumou Doumbouya, or for more information on any of the other Country MRV Scoping Reports, please contact the West Africa MRV Regional Coordinator, Ms. Rachel Boti-Douayoua.

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ACRONYMS

GHG	Greenhouse gas
MRV	Monitoring, Notification and Verification System
NAMA	Appropriate National Mitigation Measures
NDC	Nationally determined contribution
GEF	Global Environment Facility
GCF	Green Climate Fund
AF	Adaptation Fund
WB	World Bank
EU	European Union
ECOWAS	Economic Community of West African States
AFD	French Development Agency
AFOLU	Agriculture, Forestry and Other Land Use
UNDP	United Nations Development Program

1. BACKGROUND AND JUSTIFICATION

As part of the fight against climate change, the Government of the Republic of Guinea signed the Paris Agreement on April 22, 2016, in New York, which was subsequently ratified by the National Assembly on August 10 of the same year. It entered into force on November 4, 2016, thus confirming the country's commitment to contribute to the collective objective of limiting, by the end of the century, the stabilization of global temperature below 2 ° C, or even 1.5 ° C.

While NDCs represent countries' commitments to reduce their GHG emissions, the MRV system provides the management framework for planning, monitoring and evaluating the entire NDC implementation system. A Monitoring, Reporting and Verification tool is developed, in order to ensure transparency, consistency and standardization of information in the different systems. However, its operationalization requires the capacity building of local actors.

To overcome the challenge of capacity building, the Government of Canada made a commitment to support West African countries and help them honour their Nationally Determined Contributions (NDCs). To this end, the Government of Canada retained the services of NovaSphere, a Canadian non-profit organization, to conduct a series of activities that will strengthen the MRV systems for climate finance, mitigation measures, inventories of greenhouse gas emissions and short-lived climate pollutants.

Funding throughout the program will align with national and regional priorities and provide the coordination and technical assistance necessary to create opportunities, in order to improve the efficiency of national MRV systems and strengthen climate governance. This program targets the following sixteen West African countries: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, the Republic of Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

The overall objective of this study is to prepare a report on the current state of the MRV system in Guinea.

The specific objectives are to:

- Map the progress made in terms of mitigation, greenhouse gas inventory and climate finance in the country;
- Identify the country's MRV gaps and needs;
- Make recommendations to improve the existing MRV system or initiative.

2. METHODOLOGY

The methodology used is a participatory approach, in order to take into account the concerns and contributions of all the actors who must intervene in the MRV system. It was based on a literature review and interviews with partners **and** the review of the survey sheets used in the field.

3. NATIONAL POLICIES AND STRATEGIES FOR CLIMATE CHANGE MANAGEMENT IN THE REPUBLIC OF GUINEA

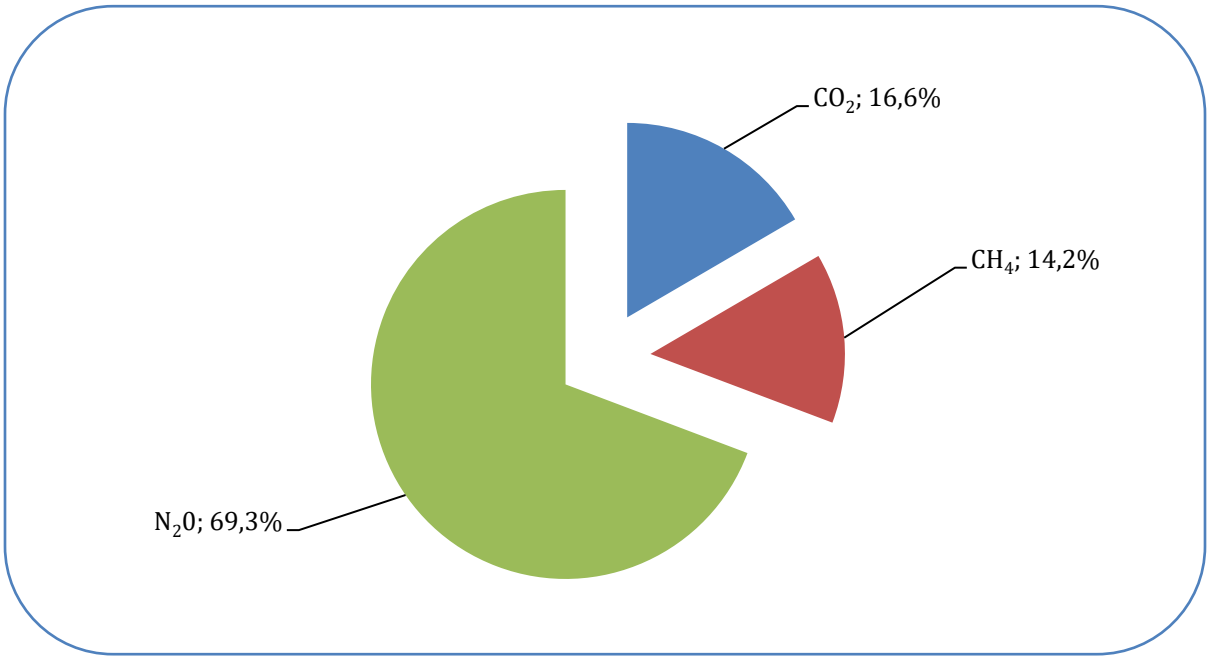
The main planning tools for taking climate change into account can be summarized as follows:

- National Economic and Social Development Plan (NESDP)
- National Climate Change Adaptation Plan (NCCAP)
- National Sustainable Development Strategy (NSDS)
- National Water Policy
- National Environmental Policy
- National Forest Policy
- Sector-specific agro-sylvo-pastoral production policy
- National Fisheries Policy
- National Climate Change Strategy
- National Energy Strategy
- Framework for appropriate mitigation measures at national level (NAMAs)
- Nationally Determined Contribution (NDC)
- National Communications on Climate Change
- National Agriculture Policy

4. EVALUATION OF THE GHG MITIGATION POTENTIAL IN GUINEA (NAMA GUINEA)

The evaluation of the mitigation potential is based on the greenhouse gas inventory (GHGI) carried out as part of Guinea's second national communication (SNC) to the UNFCCC. This inventory shows that the sectors of energy, land use, land-use change and forestry (LULUCF) and agriculture are the main emitters, with 13%, 39% and 48% of emissions respectively. The GHGI shows that the main gases emitted are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) (Figure 1).

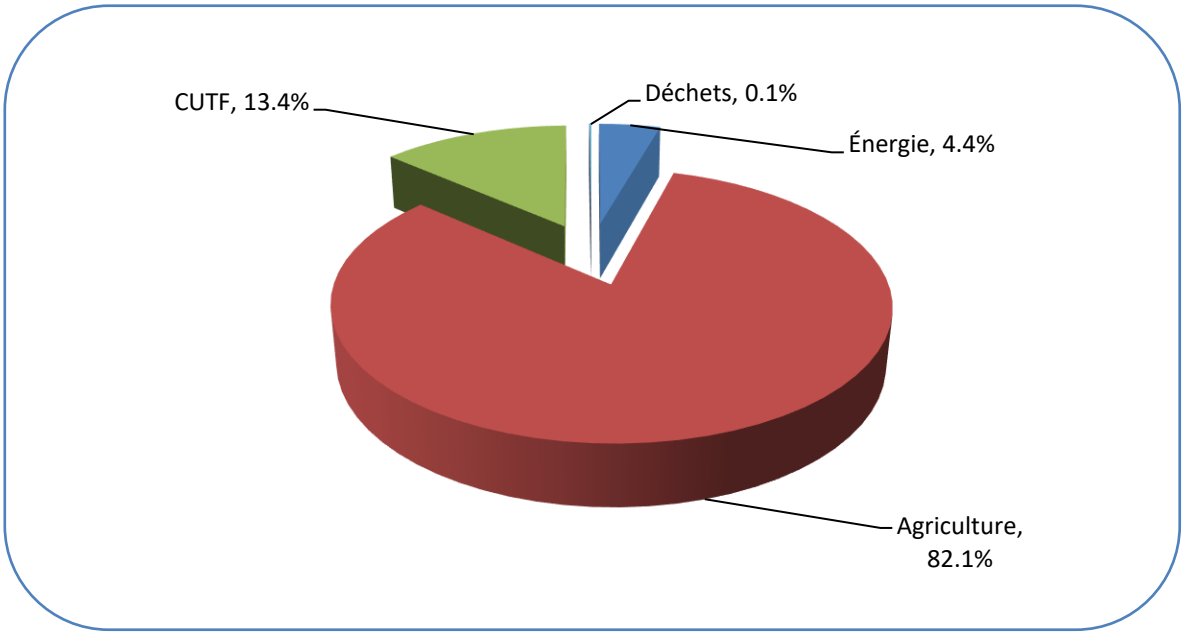
Figure 1: GHG emissions per gas.



Source: GHGI Guinea 2010.

This graph shows the importance of gas emissions, with 69.3% of nitrous oxide, 16.6% of methane, mainly from the agricultural sector (enteric fermentation, manure management and use of nitrogen fertilizers) and 14.2% of CO_2 coming mainly from energy industries.

Figure 2: GHG emissions by sector.



Source: GHGI Guinea 2010.

5. NATIONALLY DETERMINED CONTRIBUTION

Guinea released its Initial National Communication on the database dating from 1994 with the UNFCCC. That year was therefore considered a reference point and all the results in GHG emissions are extracted or extrapolated from the data in that document.

Furthermore, for the energy sector, the work of the *Sustainable Energy for All Program* (SE4ALL, 2014) was fully incorporated. It relates to data for the years 2011 – 2014 and sets targets for 2030.

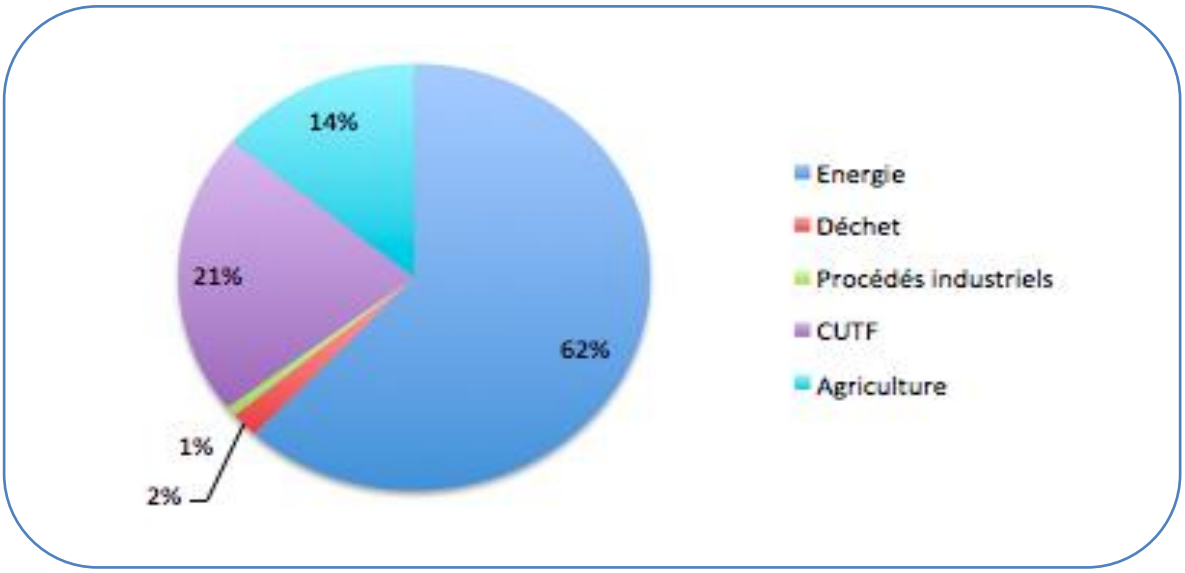
For the sake of simplicity and clarity, and in accordance with the objectives of the PRSP III, the emissions avoided by the actions of SE4ALL were evaluated over the period 2015 – 2030.

Site of the Kaléta hydroelectric dam (240 MW).

Solar street lights.

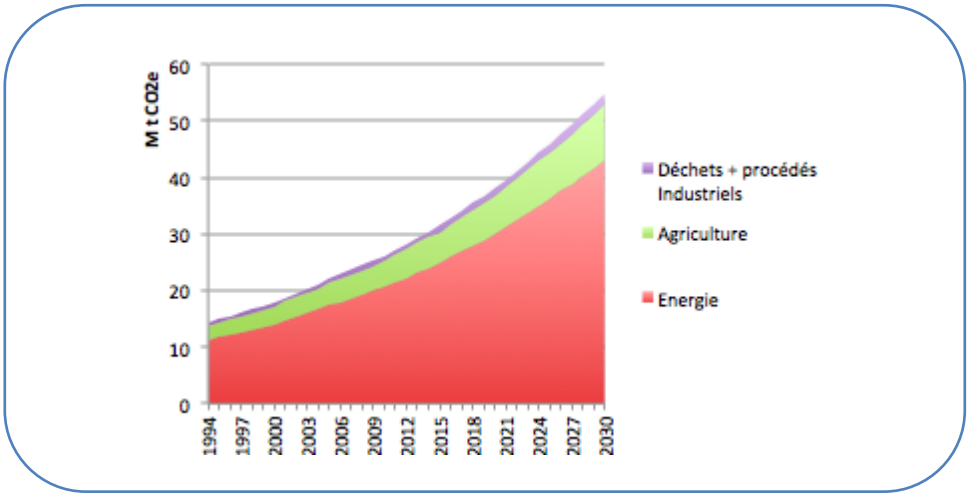
The greenhouse gas inventory carried out for the initial national communication (inventory on the basis of the 1994 emissions) shows that the energy, land-use change and forestry (LULUCF) and agriculture sectors are the main emitters and therefore constitute a strategic priority for Guinea in terms of mitigation. Thus, they have been included in the NDC.

Figure 3: GHG emissions report, according to the CNI, excluding GHG sequestration (1994 data).



The CNI 94 considers the following trends (extended to 2030):

Figure 4: Projection of Guinea's emissions (excluding the LULUCF).



Source: According to the CNI 1994.

The growth rate of emissions would be 4.4% per year over the period. Emissions would increase from 2.1 to 2.7 tCO_2e/capita. In total, this would represent a doubling over 20 years and almost 55 M tCO_2e in 2030.

Mitigation commitments

The NDC is Guinea's commitment document under the Paris Agreement. The greenhouse gas emissions mitigation targets are 13% compared to the 1994 reference year and according to the business as usual scenario by 2030. This mitigation effort is expected in the sectors of energy/energy efficiency, mining and forestry.

The financing needs are estimated at US $6.5 billion for the 2016 – 2030 period for the energy sector alone (mitigation), and US $1.7 billion for the same period for adaptation (agriculture, afforestation, fish farming, reforestation, etc.).

Guinea's commitments in the energy sector contained in the NDC are:

a) Produce 30% of its energy (excluding fuel wood) using renewable energies: By 2030

- Commissioning of 1,650 MW of hydroelectric power plants (127 MW in 2011);
- Installation of an additional 47MW over and above the existing 3 MW (2011) of solar and wind energy;
- Increase in the supply of biofuels and other modern energies (40 ktoe of butane and biogas, 3000 kWp of biofuel).

These actions would prevent 32 Mt CO_2eq of GHG emissions.

The mitigation technologies identified in the context of the EBT project contribute to achieving these targets, which include technologies on low-power hydroelectric power plants, solar power plants, the development of wind turbines and technologies on bioenergy, such as the biogas digester.

b) Support the dissemination of technologies and economic practices or alternatives to fuel wood

- Reduction by 2030 of final demand for fuel wood and charcoal per capita (urban and rural) by 50%, compared to 2011. These actions will prevent 23 Mt CO_2eq of GHG emissions.

This commitment can be achieved with technologies on bio charcoal, the Casamance grindstone, the solar sheeting for salt production in the coastal areas, etc.

c) Improve the energy performance of the Guinean economy

- Doubling of the Gross Domestic Product (GDP) energy intensity (evaluated at 0.55 kep/1USD produced today) by 2030. This action will enable the country to avoid 23 Mt CO_2eq of GHG emissions.

Energy-saving technologies contribute to achieving this target.

d) Make the exploitation of mineral resources climate-compatible

Among other things, the plan to improve the energy efficiency and deployment of Renewable Energies by 2030 would make it possible to avoid large GHG emissions.

Improving the energy performance of the mining sector (mining, transport, processing) will help mitigate greenhouse gas emissions and reduce the carbon impact of the Guinean mining sector. The main emissions caused by the mining sector come from the use of fossil fuels for energy production and fuel oil by calcination in the furnaces.

These actions will help avoid 9 Mt CO2eq of emissions.

e) Sustainably manage their forests

When it comes to forests, the NDC provides for:

- The stabilization of the mangrove area by 2030;
- The afforestation of 10,000 ha per year and sustainable management of the reforested areas;
- The effective preservation of classified forests and protected areas.

These actions will help avoid significant emissions related to changes in land use.
Achieving these targets can be done through the introduction of technologies, such as assisted natural regeneration, afforestation, and increasing the efficiency of charcoal production by using the Casamance grindstone identified in the EBT project.

6. CLIMATE FINANCE

- The GEF has funded several projects to fight climate change as part of mitigation and adaptation measures in Guinea. Of the 25 priority projects identified by NAPA in 2007, five have been implemented with GEF funding.
- With the Green Climate Fund (GCF), Guinea has prepared its Country Program document, a concept note on the NAP and a concept note on Coastal areas.
- With the Adaptation Fund (AF), the Environmental Research Center (ERC) was selected for the accreditation process. The process is being finalized.

7. ANALYSIS OF SURVEY SHEETS AND NEEDS IDENTIFICATION

The Republic of Guinea needs to integrate the activities that will take into account MRV systems for climate finance, mitigation measures, inventories of greenhouse gas (GHG) emissions and short-term climate pollutants lifetime. For this, a survey sheet was developed and submitted to the target services to create an inventory on the MRV System.

In the energy sector

There is an entity with overall responsibility for the preparation of an MRV system at the Ministry of Energy. However, not all relevant government agencies are involved, and the MRV system is not fully known. The Ministry of Energy indicated that they would like to create an operational MRV body, which will be equipped to meet the requirements of the MRV system and make the MRV system a law that would be applied to carry out the MRV system, in order to achieve the objectives set. A work plan, procedure and means of controlling GHG inventories should also be initiated. Capacity building, in order to apply the MRV system will also be necessary.

In the agriculture sector

The Ministry of Agriculture does not have an entity that has overall responsibility for the preparation of an MRV system, government agencies are not involved in the MRV process and the MRV system is not applied. The challenge of agriculture lies in the field cleaning fires and the misuse of nitrogen fertilizers, which cause GHG emissions. Agriculture needs capacity building on mitigation measures, carbon credit and design of projects eligible for climate finance. With a climate change alliance, a legal document could guarantee the application of the MRV system. To achieve this, capacity building on the MRV system is necessary in the agriculture sector, with the constant support of stakeholders to reduce GHG emissions.

In the livestock sector

For livestock, overall responsibility for the preparation of an MRV system and the involvement of government agencies are underway. MRV is not applied. Livestock breeding is facing challenges in the areas of adaptation and mitigation and needs capacity building to fight against the impacts of climate change in the context of production, food, animal health, GHG inventory, and the preparation of bankable projects mainly related to adaptation, monitoring of pastoral training and its use by the livestock sector to develop an MRV system.

Within the framework of the Paris Agreement and the NDC of the Republic of Guinea, the livestock sector needs to lead the MRV in the area of GHG emission reduction, in order to meet the objectives that have been set. Whilst carrying out activities on pastoral facilities, monitoring of routes, transhumance management, bush fires, genetic improvement, rational management of herds and the installation of water points for the cattle.

In the fisheries sector

There is no entity with overall responsibility for the preparation of an MRV system in the fisheries sector. Government agencies are not involved in the process and the MRV is not applied. The sector is facing climate change (mitigation and adaptation), and capacity building on the MRV system is needed.

In the forestry sector

There is no entity with overall responsibility for the preparation of an MRV system in the forestry sector. Government agencies are not involved in the process, and the MRV is not applied. The forestry sector is faced with carbon stock assessment and monitoring and needs capacity building on the MRV system, forest monitoring and inventory, as well as GHG inventory. It also needs protocols for sectors that self-monitor and report GHG emissions.

Under the Paris Agreement and the NDC of the Republic of Guinea, the forestry sector needs the establishment of an afforestation monitoring system and carbon stock assessment to conduct the MRV for the reduction of GHG emissions and achieve the objectives set, namely:

- Data base management;
- Clarification of land tenure issues (zoning plan or master plan for land management or land-use);
- Promotion of incentives for sustainable management;
- Efficient use of forest resources;
- Promotion of the defense of forests.

In other sectors

Generally speaking, there is no entity with overall responsibility for the preparation of an MRV system in sectors other than those mentioned previously. Government agencies are not involved in the process, and the MRV is not applied.

In the context of participation in the MRV system, these sectors are faced with insufficient data collection and processing.

Within the framework of the Paris Agreement and the NDC of the Republic of Guinea, these sectors need technical and financial support for a better ownership of the tools of the MRV system, in order to drive it and achieve the objectives set.

There is no law or regulation that formalizes the institutional configuration for the MRV system, and there are no formal legal contracts between organizations.

8. SYNOPTIC STATE/MAP OF MRVs IN THE REPUBLIC OF GUINEA

Table 1 (see Annex) summarizes the different initiatives of existing MRV systems and MRV systems in preparation.

Weakness: The problems facing the Republic of Guinea to integrate the MRV system are, among others:

- Insufficient human resources for data collection;
- Insufficient data for the GHG inventory;
- The MRV system is not known;
- Insufficient training of GHG inventory experts in the various sectors;
- Data providers do not have an MRV system.

Strength: The Republic of Guinea signed and ratified the UNFCCC, the Kyoto Protocol and the Paris Agreement; therefore, it is committed to integrating the MRV system into projects and programs for the fight against climate change.

Opportunity: There are data producing services (Energy, Hydrocarbons, Agriculture, Livestock, Forests, Statistics, etc.), policy documents and climate change reports to integrate the MRV system in the Republic of Guinea.

9. SWOT ANALYSIS OF MRV SYSTEMS AND INITIATIVES IN THE REPUBLIC OF GUINEA

Table 2 shows the current state of each MRV initiative in the Republic of Guinea.

Table 2: SWOT analysis of MRV initiatives in the Republic of Guinea.

	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
MRV National	• Existence of Public Services, Private Sectors and NGOs to ensure the coordination of the structure; • Experience in the implementa-tion of GHGI and preparation of NC; • The GHGIs cover the national territory and the main GHG emissions sectors; • Political will to support MRV initiatives.	• Insufficient technical skills to ensure the technical aspects of the MRV system; • Absence of an effective system for collecting and storing data related to activity data and the emission and capitalization factors of sector-specific MRVs; • Lack of experience when it comes to MRV mitigation and MRV support; • Absence of a harmonized national methodology for all actors working in the MRV sector; • Lack of appropriate equipment; • Lack of MRV sector-specific initiatives that could be capitalized;	• Presence of national structures specialized in data collection (Energy, Agriculture, Livestock, Forest, Hydro-carbons, Statistics, Research Institutes, etc.) which could be involved; • A favourable international environment to support the establishment of MRV systems at the national level; • Existence of sector-specific initiatives in the country, whose achievements can be capitalized to strengthen the national MRV system.	• The initiatives developed by the projects are abandoned at the end of the said projects, especially when these projects do not integrate an effective permanent national system during the design. This does not allow for better capitalization; • It is difficult to mobilize climate finance resources at the international level (GCF, AF, GEF); • The scarcity of external and internal financing due to various global economic crises; • Multitude of isolated initiatives not coordinated by the national MRV; • Staff mobility.

	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
		• Lack of qualified staff in GHG inventory in various sectors; • Insufficient data for the GHG inventory; • Inadequate knowledge of MRV systems by ministerial departments.		
MRV Bio digester	• Presence of a dynamic team; • Existence of a methodology, even if it is simplified; • Existence of a functional device for collecting activity data; • Existence of technical equipment.	• Insufficient qualified personnel for project ownership.	• Existence of a carbon market; • Existence of funding mechanisms for green projects; • Existence of carbon market alliances.	• Lack of agreement on Article 6 at COP25.
MRV Improved Stoves	• Presence of a dynamic team; • Existence of a methodology, even if it is simplified; • Existence of a functional device for collecting activity data.	• Lack of appropriate equipment; • Insufficient qualified staff.	• Existence of other initiatives involved in technology transfer; • Collaboration for better synergy and information sharing with the Designated National Entity team on technology transfer.	• Lack of agreement on Article 6 at COP25.

10. RECOMMENDATIONS

For the integration of the MRV system in the Republic of Guinea, the following key actions are recommended:

- The strengthening of the existing regulatory and policy framework on climate change, particularly on MRV issues, in order to raise the level of ambition of the NDC in all sectors;
- Putting in place national legislation to establish guidelines for collection, processing, archiving and reporting at national and sub-national levels;
- The strengthening of the current systems for collecting, archiving, processing and reporting data for the GHG inventory;
- The strengthening of the technical capacities of national institutions, the private sector, civil society organizations, universities and research centers, in order to involve them in the MRV system;
- Build capacity on updating, reviewing and implementing NDCs.

In conclusion, it should be noted that the existence of policy documents (the NESDP, the National Environment Policy, the National Forest Policy, the Forest Code, the Environment Code, etc.), the strategy on climate change, and reports on climate change promote the formalization of the institutional configuration for the MRV system in the Republic of Guinea.

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ANNEX

Survey Questionnaire

Survey Responses