

MINISTRY OF ENVIRONMENT

Rwanda's Climate Adaptation Monitoring, Evaluation, and Learning System in the Agriculture Sector:

Institutional arrangements

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Briefing Note 3

Ministry of Environment

Department of Environmental and Climate Change
Kigali, Rwanda

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Foreword

The National Adaptation Plan Global Network is supporting the Government of Rwanda in the implementation of its roadmap to establish a monitoring, evaluation, and learning (MEL) system for climate adaptation, beginning with a pilot test of the MEL framework for Rwanda's updated nationally determined contribution in the agriculture sector.

Progress on the implementation of MEL in the agriculture sector is set out in a series of briefing notes that follow the framework set out in the guidelines for MEL for the National Adaptation Plan process published by the Deutsche Gesellschaft für Internationale Zusammenarbeit and the International Institute for Sustainable Development. The briefing notes address:

- 1. **Context:** Identifying the aims and objectives of the MEL system and setting out the policy context that guides it.
- 2. **Content:** Examining the indicators and types of information and data that are available (or not available) and need to be collected; clarifying the systems needed for data collection.
- 3. **Operationalization:** Elaborating on the institutional arrangements needed to implement the MEL system and identifying the resources available and needed to run the MEL system.
- 4. **Learning and communication:** Exploring how the information generated by the MEL system will be communicated, in which formats, and to which audiences (Price-Kelly, et al., 2015).

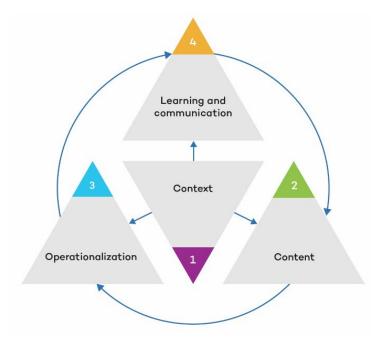


Figure 1. Building blocks of an adaptation MEL system

Source: Adapted from Price-Kelly et al., 2015.

This is the third briefing note in the series and focuses on the institutional arrangements for Rwanda's adaptation MEL system.

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List of Abbreviations

CFSVA Comprehensive Food Security and Vulnerability Analysis

ECC-TWG Environment and Climate Change Thematic Working Group

ENR-SWG Environment and Natural Resources Sector Working Group

FAO Food and Agriculture Organization of the United Nations

FONERWA Rwanda Green Fund

GHG greenhouse gas

GMO Gender Monitoring Office

JSR Joint Sector Review

M&E monitoring and evaluation

MEL monitoring, evaluation, and learning

MIGEPROF Ministry of Gender and Family Promotion

MINAGRI Ministry of Agriculture and Animal Resources

MINALOC Ministry of Local Government

MINECOFIN Ministry of Finance and Economic Planning

MIS Management Information System

MoE Ministry of Environment

MRV measurement, reporting, and verification

NAEB National Agricultural Export Development Board

NLA National Land Authority

NAP National Adaptation Plan

NDC nationally determined contribution

NGO non-governmental organization

NISR National Institute of Statistics Rwanda

RAB Rwanda Agriculture and Animal Resources Development Board

RDB Rwanda Development Board

REMA Rwanda Environment Management Authority

RFA Rwanda Forestry Authority

RWB Rwanda Water Resources Board

UNFCCC United Nations Framework Convention on Climate Change

1. Introduction

This briefing note provides insights on potential institutional arrangements for Rwanda's adaptation monitoring, evaluation, and learning (MEL) system, building on earlier analysis that reviewed aims and objectives as well as data collection and information management needs.

Institutional arrangements refer to the roles and functions of various ministries, departments, working groups, and other actors involved in operationalizing the MEL system; the division of responsibilities across these bodies; the formal or informal agreements between the lead agency and other institutions; and the resources that are required by these institutions and actors to carry out their MEL tasks (Price-Kelly et al., 2015).

This briefing note reviews the guidance on the roles and responsibilities of the various institutions engaged in MEL of adaptation that are set out in government policies, plans, and documents. The note then clarifies institutional arrangements and working relationships for actions in line with the MEL of adaptation in the agriculture sector. An examination of resource allocations, needs, and gaps leads to the concluding section, which sets out recommendations for continued actions to improve the institutional arrangements for adaptation MEL.

2. Guidance for the Institutional Arrangements for Adaptation MEL

The institutional arrangements for adaptation MEL are informed by various government policies and plans. The Government of Rwanda's 2015 results-based performance management policy includes a national-level monitoring, evaluation, and reporting framework¹ that sets out institutional arrangements and responsibilities. The framework indicates that line ministries coordinate the monitoring of the implementation of their action plans and *imihigo* (performance contracts) as well as those of affiliated agencies and submit consolidated reports to the Ministry of Finance and Economic Planning (MINECOFIN) (Ministry of Public Service and Labour & MINECOFIN, 2015, pp. 14–15).

The **National Monitoring, Evaluation, and Learning Guidelines** (2021) indicate that for national policies and programs, leading institutions are responsible for monitoring progress across sectors and institutions. As such, the Ministry of Environment (MoE) is responsible for monitoring the progress of the implementation of Rwanda's nationally determined contribution (NDC). The National Monitoring, Evaluation, and Learning guidelines indicate that the National Institute of Statistics of Rwanda (NISR) plays a role in supporting institutions with regard to data collection and quality assurance of the data collected (MINECOFIN, 2021).

The National Environment and Climate Change Policy (2019) sets out clear institutional arrangements, including defined roles and responsibilities for coordination, monitoring, and evaluation. The policy emphasizes the use of existing coordination mechanisms to support the implementation of the policy, such as the inter-ministerial steering committee for the Green Growth and Climate Resilient Strategy, Joint Sector Reviews (JSRs), and the environment and natural resources sector working group. The ministry responsible for environment will monitor the implementation of the policy, carrying out its mandate in collaboration with other ministries and central agencies. Local administrations, development partners, the private sector, non-governmental organizations (NGOs), academia, and local communities are expected to support the government in monitoring and evaluating the policy. The implementation plan sets out the roles and responsibilities of government bodies, specifying that MoE leads the development of tools to effectively monitor progress toward climate-compatible development, working with the Rwanda Environment Management Authority (REMA), the Ministry of Agriculture and Animal Resources (MINAGRI), the Ministry of Local Government (MINALOC), the Rwanda Development Board, the Rwanda Water Resources Board (RWB), and the Rwanda Forestry Authority (MoE, 2019).

Ministerial Order No 005/2021 of 08/04/2021 determines the procedures for the preparation of national reports on climate change that will enable Rwanda to meet reporting requirements under the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. It provides a clear mandate for national ministries to undertake climate change-related monitoring and reporting. Through the order, MoE is requested to collect data for reporting on projections,

¹ This briefing note and MoE's work program on tracking and understanding the impacts of adaptation actions uses the term "monitoring, evaluation, and learning (MEL)," which is in accordance with Section 7.9(d) of the Paris Agreement (United Nations, 2015) and consistent with best practices.

adaptation, greenhouse gas (GHG) emissions, and mitigation. The order further indicates that NGOs, private sector companies, and institutions in relevant sectors will share data requested by MoE or REMA. For example, in the agriculture sector, MINAGRI is responsible for collecting and managing data on NDC indicators (GoR, 2021).

Rwanda's **updated NDC (2020)** provides information on institutional arrangements for the MEL of adaptation, calls for linkages with established data management systems, and highlights the importance of effective systems to monitor and report on the implementation of the priority adaptation and mitigation measures. The updated NDC calls for the development of (and provides guidance on) the roles and responsibilities for the MEL framework for adaptation (which are further elaborated in Section 3) (MoE, 2020).

3. Institutional Arrangements for Adaptation MEL

Various government entities and departments—including oversight bodies, specific government departments, and other stakeholders—are responsible for the implementation and tracking of progress on Rwanda's NDC, which includes adaptation actions in the agriculture sector. The main institutional entities engaged in adaptation MEL and their roles and responsibilities are briefly described in this section and illustrated in Figure 2, which draws on the information provided in Rwanda's updated NDC (MoE, 2020) and generated through the pilot testing of the adaptation MEL system in the agriculture sector.

Institutional Arrangements for Adaptation MEL in Rwanda Ministry of Environment (chair) **National Reporting** NDC • Environment and Natural Resources · Joint Sector Reviews **Implementation** (ENR) Sector Working Group Annual reports Tracking · Oversight of ENR MIS/Results-based · Evaluations of NDC Monitoring and Evaluation System MINECOFIN/FONERWA Reporting on adaptation finance REMA (chair) **International Reporting** · Environment and Climate to UNFCCC Change Thematic **NISR** Adaptation Communications Working Group · National Communications Data quality oversight NDC MRV/MEL Technical · Biennial Transparency Working Committee Reports MIGEPROF/GMO Gender data input and review Sector Ministries, Public Authorities and Boards (e.g., MINAGRI, RAB, NAEB) **District Governments** NGOs, private sector, academic (working with MINALOC) and research institutions

Figure 2: Institutional arrangements for adaptation MEL in Rwanda

Source: Authors, informed by MoE, 2020, p. 60.

3.1 High-Level Oversight Bodies

The institutional arrangements for the adaptation MEL system include bodies that provide high-level coordination and oversight and guide policy and strategic decisions related to Rwanda's climate response. MoE will provide information on adaptation progress and learning to the three following high-level oversight bodies and will receive guidance from them.

Permanent Secretaries Forum

Comprised of the permanent secretaries of all ministries, the forum provides high-level cross-sector oversight as well as policy and strategic advice. MoE will regularly report on adaptation progress to the forum, which will provide guidance and help incorporate lessons learned on adaptation into policy- and decision-making.

Economic Cluster Working Group

Guided by MINECOFIN, the working group provides strategic oversight of the financial sector and key economic sectors. For adaptation, it advises on how adaptation policies and investments can help deliver the expected results of the National Strategy on Transformation and how the lessons learned from the MEL of adaptation action can inform high-level decision-making.

Development Partners Coordination Group

Comprised of representatives from the government and multilateral and bilateral development agencies, the coordination group assists the government with the implementation of the National Strategy on Transformation. It provides guidance on accessing finance and support for NDC implementation, including support to operationalize and implement the adaptation MEL system.

3.2 Working Groups and Committees with Adaptation MEL Responsibilities

Three working groups that are chaired by MoE or REMA are expected to play a role in the MEL of adaptation action:

Environment and Natural Resources Sector Working Group (ENR-SWG)

Chaired by the MoE and a development partner representative (the head of of Development Cooperation in the German Embassy in Rwanda was the co-chair 2022), the ENR-SWG is comprised of representatives from government institutions involved in environment and natural resources, including MINECOFIN, REMA, the Rwanda Green Fund (FONERWA), Meteo Rwanda, the Rwanda Forestry Authority, the National Land Authority, MINAGRI, and the Rwanda Agriculture and Animal Resources Development Board (RAB), as well as development partners, NGOs, academia, and the private sector (MoE, 2017). The sector working group holds semi-annual JSR sessions to track, monitor, evaluate, and report on the implementation of sector priorities (MoE, 2020, p. 58).

The JSR monitors progress on the Sector Strategic Plan, including monitoring and reporting on the progress of the implementation of the NDC and advocating for decision-making based on lessons learned through the adaptation MEL system. In addition, the sector working group reviews and verifies the data collected through the Environment and Natural Resources Management Information System (ENR-MIS), including the adaptation data. The adaptation MEL system is

expected to provide inputs to the progress reports on NDC implementation developed by MoE and REMA for submission to the JSR process.

Environment and Climate Change Thematic Working Group (ECC-TWG)

A sub-entity of the ENR-SWG, the ECC-TWG is chaired by the Director General of REMA and cochaired by a development partner (The World Bank Country Manager was co-chair in 2022). The thematic working group includes representatives from government institutions, development partners, NGOs, academia, and the private sector. The ECC-TWG meets twice a year and supports implementation in the sector, including monitoring, evaluation, and progress reporting on environmental and climate change priorities (MoE, 2020).

The thematic working group is responsible for coordinating the implementation of Rwanda's NDC, including the implementation of, monitoring of, and reporting on adaptation actions (MoE and REMA, 2022). The working group provides guidance on the design, planning, and implementation of adaptation actions prioritized in the NDC and will contribute to the updating of the NDC (MoE, 2020). The ECC-TWG fulfils a quality assurance role that includes reviewing national reports to be submitted to the UNFCCC, such as national communications and adaptation communications.

NDC MRV/MEL Technical Working Committee

A proposed subcommittee of the ECC-TWG, the NDC Measurement, Reporting, and Verification (MRV)/MEL Technical Working Committee will be chaired by REMA and will be comprised of a core team appointed by the ECC-TWG. The committee will provide technical oversight and coordinate the operationalization of the NDC MRV and MEL systems at the national level. The committee will present a framework for the adaptation MEL system to the ECC-TWG for official endorsement (MoE, 2020).

This committee is expected to play a critical role in collecting and verifying data to monitor and evaluate the results of adaptation actions, as well as coordinating the various national agencies responsible for data generation. In addition, it will produce reports, manage reporting to the UNFCCC, and ensure that Rwanda meets the enhanced transparency requirements of the Paris Agreement. The committee will also ensure that Rwanda's NDC MEL system links mitigation, adaptation, and finance, and tracks support for capacity-building and technology transfer. The proposed mandate and responsibilities of the committee are listed in Box 1.

Box 1. Role of the NDC MRV/MEL Technical Working Committee

- Providing advice, feedback, and guidance on the scope, schedule, cost, and quality concerns that arise during the planning, design, and implementation of projects related to NDCs.
- Facilitating access to the resources necessary for the operation of the adaptation MEL system.
- Reviewing and examining studies and research activities in line with NDCs to facilitate quality assurance and alignment with strategic priorities.
- Developing and operationalizing an effective NDC adaptation MEL communications plan.
- Creating guidelines and common standards, formats, and templates to be used for reporting to the UNFCCC on adaptation as part of national communications, biennial update reports or biennial transparency reports, and adaptation communications.
- Defining and using common data sources, methods, and procedures to monitor and report on adaptation.
- Endorsing and verifying MEL data and adaptation reports.
- Identifying priority needs for institutional strengthening, capacity-building, and training for adaptation MEL.
- Facilitating linkages through a comprehensive stakeholder engagement process and jointly defining the political and strategic elements of the adaptation MEL system.

Source: Adapted from MoE (2020), pp. 60-63.

3.3 Roles and Responsibilities: Adaptation MEL in the Agriculture Sector

Various government bodies and institutions are engaged in the MEL associated with the priority adaptation actions in the agriculture sector in Rwanda's NDC. The main roles and responsibilities are described in this section, drawing on the lessons learned through the pilot test of the adaptation MEL framework for Rwanda's updated NDC in the agriculture sector. The roles and responsibilities of the main institutions engaged in data collection, management, and analysis for tracking progress on the NDC indicators in the agriculture sector are summarized in Box 2 and described in this section.

Ministry of Environment

MoE is the principal lead on developing policies and programs related to environment and climate change as well as on monitoring, evaluating, and reporting on national climate change adaptation. This includes monitoring and reporting on the implementation of the NDC adaptation interventions and overseeing the Results-Based Monitoring and Evaluation System, also referred to as the Environment and Natural Resources Management Information System (ENR-MIS). MoE is the chair of the ENR sector working group and the JSR that monitors progress on sector plans.

Box 2. Rwanda's adaptation MEL process: Roles and responsibilities for NDC indicator data collection, management, and analysis in the agriculture sector

Data collection

- MoE: Leads and provides overall coordination of indicator data collection.
- REMA: Works closely with MoE and leads the validation and quality control process for adaptation indicator data.
- MINAGRI: Leads the collection of data to track the NDC adaptation indicators in the agriculture sector; collaborates with the Rwanda Agriculture and Animal Resources Development Board (RAB), the National Agricultural Export Development Board (NAEB), the Rwanda Forestry Authority (RFA), the Rwanda Water Resources Board (RWB), NISR, the National Land Authority (NLA), MINALOC, and other relevant institutions to collect data to track NDC indicators, including from the district governments (see Appendix 1).
- MINALOC: Provides oversight in facilitating local government data flow to the national-level and district governments, including agriculture data required to track NDC adaptation indicators.

Data management

- MoE: Working with REMA, enters quantitative adaptation data to track NDC indicators in the NDC tracking feature of ENR-MIS.
- MINAGRI: Enters agriculture adaptation data for six NDC indicators in MINAGRI-MIS; collects and
 organizes qualitative information to report on the outcomes of adaptation actions in the
 agriculture sector (such as expert input, case studies, and reports from NGOs and the private
 sector); and provides this information to MoE.

Data analysis and reporting

- REMA: Leads data analysis and reporting, which requires using the collected NDC indicator data to
 report on progress at the output and outcome levels.² Supervises the preparation of reports to the
 UNFCCC (such as adaptation communications and the vulnerability and adaptation section in the
 national communications).
- NDC MRV/MEL Technical Working Committee (once established): Reviews data analysis (such as
 the spreadsheet that tracks progress on adaptation indicators in the agriculture sector), and
 reviews and approves outlines and drafts of reports, policy briefings, and recommendations.
- ECC-TWG: Reviews and approves adaptation reports and briefs.
- MINAGRI, RAB, NISR, MINECOFIN, and other relevant organizations: Involved through processes, such as the technical working committee and ECC-TWG, to review and provide quality control of data and reports.
- MoE: Endorses reports on adaptation and submits them to the UNFCCC Secretariat; submits
 reports and communicates information on adaptation semi-annually at the ECC-TWG and ENRSWG meetings; includes adaptation as an agenda item for the JSR meetings; and presents
 recommendations on adaptation to the Office of the Prime Minister.

Source: Gashugi et al. (2021) and MoE (2020).

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² The Government of Rwanda's *National Monitoring, Evaluation and Learning Guidelines* define outputs as the first level of results that emerge from undertaking activities in the short term, while outcomes form the second level of results and refer to medium term impacts (MINECOFIN, 2021). In regard to adaptation actions and indicators, an example is increasing irrigation actions. In the short term, this adaptation actions results in the output of an increased area of irrigated land measured by hectares. Over the medium term, the output should lead to the outcome of decreased climate vulnerability of farmers and more resilient crops, which could be measured by increased crop productivity.

MoE leads on and provides coordination and oversight for adaptation MEL in the agriculture sector. MoE is responsible for monitoring and reporting on the 10 adaptation indicators in the agriculture sector, as mandated by Ministerial Order No. 005/2021 of 08/04/2021 on climate change reporting. In fulfilling this responsibility, the Ministry is supported by MINAGRI and REMA. MoE manages the ENR-MIS, including the entry of agriculture and other adaptation data into the NDC tracking feature of the ENR-MIS once the data has been verified by the NDC MRV/MEL Technical Working Committee.

The Ministry, working with REMA, is responsible for generating and submitting international and national reports on adaptation. International reporting under the UNFCCC related to adaptation includes NDCs that have a section on adaptation, national communications that include a section on climate vulnerability and adaptation, and adaptation communications. Domestic reporting on adaptation includes inputs to the JSRs and reports on progress in implementing the NDC.

Rwanda Environmental Management Authority

Under the supervision of MoE, REMA is a regulatory agency mandated to coordinate the implementation of climate adaptation measures and to advise the government on legislative and policy matters related to adaptation. REMA oversees and monitors efforts to ensure that adaptation interventions are integrated into national development programs. REMA is the national focal point for activities pertaining to the UNFCCC, which includes, *inter alia*, liaising with the Convention secretariat to provide information on national-level activities related to the Convention as well as financial and technical support (United Nations Climate Change Secretariat, 2020).

REMA is the chair of the Environment and Climate Change Thematic Working Group and has been put forward as the chair of the proposed NDC MRV/MEL Technical Working Committee. As chair of the proposed committee, REMA will be responsible for verifying, approving, and managing adaptation data that is collected through relevant institutions, such as MINAGRI for agriculture. In addition, REMA is expected to work through the proposed NDC MRV/MEL Technical Working Committee to oversee the management of the adaptation MEL system.

REMA works with MINAGRI to access the data from the MINAGRI-MIS and relevant reports to enable the monitoring of adaptation indicators in the agriculture sector. REMA collects this information through a reporting template and organizes it through a spreadsheet tool. REMA is also expected to lead the process to verify the data through the MRV/MEL Technical Working Committee. Once verified and approved, the adaptation MEL data will be uploaded or entered manually into ENR-MIS by staff members from REMA (e.g., climate data and chemicals management information system officer, transparency sector specialist, environment and climate change adaptation and mitigation specialist) or MoE (e.g., ENR-MIS data management and learning specialist, ENR-MIS system administrator specialist).

National Institute of Statistics Rwanda

Responsible for data quality, NISR authenticates data and information for internal and external use and consumption. It provides oversight of the statistics and data needed to report on the NDC adaptation indicators, and it produces surveys that collect data in order to analyze changes in climate vulnerability and prepare statistics in the agriculture sector, such as the Seasonal Agriculture Surveys and Agricultural Household Surveys. NISR populates its specific data portals and provides

MoE, REMA, MINAGRI, and other government departments with access to those data portals, which may include information relevant for adaptation MEL.

Ministry of Finance and Economic Planning

MINECOFIN is responsible for tracking adaptation NDC-related finance, including domestic and international flows of finance for adaptation. The ministry coordinates the monitoring and evaluation activities of relevant government institutions at all levels, with an emphasis on tracking and assessing progress toward priority national development outcomes. MINECOFIN receives reports from line ministries, including from MoE about progress on implementing the NDC. The adaptation MEL system will provide inputs to the MoE reports on the NDC.

FONERWA: Rwanda Green Fund

FONERWA is responsible for collecting and managing data on finance for adaptation, working with MINECOFIN. FONERWA is a domestic platform to access environment and climate finance data, and it provides information on adaptation finance to national reporting processes. Rwanda's MEL system is expected to track adaptation finance and the results generated through financial support. This information will increase understanding about which adaptation actions provide the best value for money and will guide resource mobilization.

Ministry of Gender and Family Promotion and the Gender Monitoring Office

The Ministry of Gender and Family Promotion (MIGEPROF) and the Gender Monitoring Office (GMO) are responsible for promoting, protecting, and advancing gender equality in the NDC, which includes ensuring that gender issues are addressed appropriately in the adaptation MEL system. These bodies work with MoE to ensure that gender-disaggregated data is captured and reported in the NDC process, including for tracking the NDC indicators in the agriculture sector.

Ministry of Agriculture and Animal Resources

While MoE is mandated to monitor and report on adaptation outcomes, MINAGRI also plays a significant role, being the lead institution responsible for gathering, generating, and processing information and data to track the 10 NDC adaptation indicators in the agriculture sector. MINAGRI works with RAB, NAEB, NLA, RWB, RFA, and other groups to collect data (see Appendix 1).

Much of the information is gathered and compiled in the MINAGRI-MIS system. The data in the MINAGRI-MIS enables quantitative reporting on six NDC adaptation indicators at the output level and the tracking of progress toward NDC adaptation targets. Information to track progress on the other four indicators is provided in reports such as the Seasonal Agriculture Surveys and Agricultural Household Surveys prepared by NISR and the agriculture annual reports produced by MINAGRI (2021).

To avoid having multiple reporting channels, NGOs and the private sector will provide information and data on their NDC-related adaptation activities directly to MINAGRI, which in turn will share with REMA for review and to identify lessons learned.

Ministry of Local Government and Local Government Institutions (Districts)

MINAGRI works with MINALOC and the district governments to gather local-level information. MINALOC is responsible for upstream reporting on adaptation indicators at the local level. Much of

the primary data and information needed for adaptation MEL is generated and collected at the district level, and MINALOC provides oversight in facilitating local government data flow to the national and district governments.

Joint Action Development Forums at the District Level

The collection of primary data at the district level, including data to track the NDC indicators in the agriculture sector, is facilitated by the Joint Action Development Forums, which are comprised of multiple stakeholders including district administrations, local NGOs, and the private sector. Coordinated by the Rwanda Governance Board, the forums assist with monitoring the implementation of NDC actions within District Development Strategies and promote cooperation between the public sector, private sector, and civil society to deliver on national priorities at the district level, including climate and adaptation actions (MoE, 2020).

NGOs and Private Sector Entities

NGOs and private sector entities are expected to provide information to MoE on their programs, projects, and actions that contribute to achieving NDC adaptation priorities. This information is critical to understanding how adaptation actions are taken up at the community level, and whether these actions help systems and people adapt to the impacts of a changing climate and achieve the expected outcomes. MoE is beginning to collect qualitative information on progress toward the expected adaptation outcomes in the agriculture sector through expert input, case studies, and reporting on adaptation actions. NGOs and private sector entities will report information related to progress on the agriculture NDC indicators directly to MINAGRI, which will compile it and then share it with REMA for review and validation and to identify lessons learned. The NDC MRV/MEL Technical Working Committee will oversee the validation and review of data and information.

Academia and Research Institutions

Research and academic institutions assist with capacity development initiatives on adaptation MEL and carry out research on adaptation MEL.

4. Human Resource Allocation and Gaps

Rwanda is making progress on adaptation, and the government is stepping up efforts to monitor and evaluate this progress. However, the establishment and operationalization of the adaptation MEL system will require enhanced human resources and the mobilization of additional resources. This section reviews the current status of human resources in the key institutions and discusses needs going forward.

MoE has a Planning and Monitoring and Evaluation (M&E) unit that is responsible for overseeing and tracking progress on the implementation of policies and strategies. The unit includes one planning specialist and one M&E specialist. The unit is responsible for monitoring and evaluating progress on the implementation of the updated NDC across all sectors, including agriculture, but it lacks personnel that are dedicated to this task.

REMA has several staff members who are dedicated to climate-related matters, which includes officials responsible for climate change adaptation, mitigation, climate data information systems, preparing GHG inventories, and reporting to the UNFCCC. REMA's Single Project Implementation Unit is responsible for managing and overseeing the implementation of all projects to ensure the achievement of those projects' goals and the sustainability of outcomes, and includes officials with capacity to conduct M&E of the progress of adaptation projects.

MINAGRI has a Planning Directorate that is responsible for coordinating the M&E of the implementation of agricultural sector programs. The staff includes a planning specialist, an M&E specialist, and an environment and climate change specialist. The environment and climate change specialist has been designated as the NDC focal point for MINAGRI and is responsible for tracking progress on the NDC indicators in the agriculture sector, including the adaptation indicators.

RAB has two staff members that are responsible for M&E. They will need to work with officials in MINAGRI to provide data and information to report on the NDC adaptation indicators.

Most institutions have insuffient human and financial resources to track and input information on the NDC adaptation indicators, which may be the case because officials that are responsible for MEL often have small budgets compared to many responsibilities. Officials in most government departments have some knowledge of adaptation MEL, and some ministries have identified focal points for collecting data for the GHG inventory. However, most government ministries have not designated a focal point for adaptation MEL or idetified an official responsible for adaptation MEL.

MoE has not assigned the duties and responsibilities for adaptation MEL to a specific official, yet there is a need to support the implementation of the MEL framework by coordinating inputs; compiling evidence, data, and information; and leading analysis, reporting, and learning on adaptation outcomes in priority sectors.

Capacity development on adaptation MEL is needed for officials in MoE and REMA, who will lead on adaptation MEL, as well as for focal points that will be assigned in relevant ministries. Consideration could be given to expanding training under existing or planned capacity development projects to include data collection and analysis for adaptation MEL. MoE and REMA recommend that experts from government institutions, higher learning institutions, and the private sector who are trained in

data collection for the national GHG emissions inventory also be trained in providing data and information required as inputs for the adaptation MEL system. Examples include:

- The Rwanda Capacity-Building Initiative for Transparency project, taking place from 2019 to the end of 2023, aims to strengthen the capacity of institutions in Rwanda to fulfil the transparency requirements of the Paris Agreement. While the project emphasizes strengthening the national GHG inventory system, it has also developed a prototype of an integrated platform for data-sharing and informing policy-making in regard to NDC implementation, finance, and transparency transfer, which could provide guidance to the adaptation MEL system (REMA and Global Environment Facility, 2020).
- REMA, working in partnership with the African Institute for Mathematical Sciences, will
 deliver a training session in 2023 that aims to build the capacity of national experts from
 government institutions, academia, and the private sector on approaches to monitoring and
 reporting on national-level climate change vulnerability and impacts as well as adaptation
 actions (in addition to mathematical modelling and data analysis and interpretation to
 facilitate the preparation of GHG emissions scenarios and climate models and projections).

5. The Way Forward

Rwanda has taken initial steps to operationalize its adaptation MEL system, including setting out the institutional arrangements and identifying the roles and responsibilities for the key government institutions engaged in adaptation MEL. The lessons learned from this review of institutional arrangements for adaptation MEL in the agriculture sector lead to suggested next steps to ensure that Rwanda is moving forward to monitor and evaluate progress on the implementation of NDC adaptation actions, as well as reporting on and sharing lessons learned about adaptation action.

To move forward, action is required in the following areas:

- Ensuring that MoE and REMA have required personnel to oversee the development and implementation of the adaptation MEL system. One possible recommendation is to assign the responsibility for overseeing the adaptation MEL system to the climate data and chemicals management information system officer. In addition, MoE and REMA will require human and financial resources for coordination and data management (e.g., data collection, tools and MIS for data management). For example, a budget of around USD 250,000 will be required to establish and implement Rwanda's adaptation MEL program for 2023 and 2024.
- Appointing focal points in relevant ministries for MEL of NDC adaptation priorities. Under the guidance of MoE, REMA could liaise with MINAGRI and other relevant ministries and agencies to confirm whether the existing environment and climate change focal points will also be responsible for providing information for tracking adaptation NDC indicators. Ideally, two staff members could be appointed from each relevant ministry, comprised of the existing environment and climate change focal point as well as an official responsible for NDC implementation and MEL, who could be from the planning department.
- Establishing the NDC MRV/MEL Technical Working Committee and ensuring that the
 committee has a subcommittee or sub-group focused on adaptation MEL. This committee
 could promote and support the exchange, sharing, and validation of information at all stages
 of adaptation MEL (data collection, tracking, analysis, evaluation, reporting, communication,
 and learning). REMA could identify and invite members to participate in the NDC MRV/MEL
 Technical Working Committee. The committee should be inclusive and include stakeholders
 from NGOs and the private sector. REMA could operationalize this committee by assigning a
 specific staff member responsibility for MEL/MRV tasks, including managing and
 coordinating the committee.
- Defining the requirements or terms of reference to guide appointed focal points for the NDC MRV/MEL technical working committee.
- Establishing a curriculum to train technical working group members to help provide the required expertise and technical backstopping, especially during the turnover of focal points.
- Harmonizing the work under projects supported by development partners that aim to
 improve MRV processes by assessing opportunities for capacity-building and information
 collection that will also benefit adaptation MEL. For example, the Capacity-Building Initiative
 for Transparency project will establish data collection and review processes and protocols as
 well as data integration and sharing procedures for the mitigation MRV system, which could
 be assessed for complementarities with and inputs into the adaptation MEL system.

• Continuing with a phased approach by identifying a next sector for adaptation MEL. This could include exploring data availability to track the adaptation NDC indicators in the selected sector. The roles and responsibilities of key institutions in this sector could be informed by the lessons learned through the pilot phase in the agriculture sector.

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Appendix 1. NDC adaptation indicators

Table A1. NDC adaptation indicators in the agriculture sector with relevant stakeholders and potential sources of data to assess expected outputs and outcomes

Indicators	Relevant stakeholders for primary data collection ^{1, 2}	Management or tracking of indicator data	Data sources for tracking progress on indicators and outputs	Data sources for reporting on progress toward the achievement of the outcome: reports and entities implementing adaptation actions ³
Expected outcome: Increased productivity, nutritional value and resilience through sustainable, diversified, and integrated crop, livestock, and fish production systems operating in a gender- responsive and climate-resilient manner	Ministry of Environment (MoE), Rwanda Environment Management Authority (REMA), Ministry of Agriculture and Animal Resources (MINAGRI), Ministry of Local Government (MINALOC), districts	Environment and Natural Resources Management Information System (ENR-MIS) nationally determined contribution (NDC) tracking feature	REMA dataset	Climate Change Vulnerability Assessment
Number of climate- resilient crop varieties developed	MINAGRI, Rwanda Agriculture and Animal Resources Development Board (RAB), National Agricultural Export Development Board (NAEB), district governments, private sector, NGOs	MINAGRI-MIS ENR-MIS NDC tracking feature	MINAGRI Annual Reports Food and Agriculture Organization of the United Nations (FAO)/MINAGRI dataset	Comprehensive Food Security and Vulnerability Analysis (CFSVA) Companies and projects: Agriterra and IABM Cooperatives, Programme de développement du Nord, One Acre Fund, Tri Seed Ltd., Trocaire, Western Seed Company Ltd., Yara Rwanda Ltd.
2. Percentage of farmers adopting resilient crop varieties	MINAGRI (RAB, NAEB), private sector, non- governmental organizations (NGOs)	MINAGRI-MIS ENR-MIS NDC tracking feature	NISR Seasonal Agricultural Surveys	
3. Percentage of crossbreed livestock among national herd species	MINAGRI (RAB, NAEB), private sector, NGOs	ENR-MIS NDC tracking feature	NISR Agricultural Household Survey	CFSVA

Indicators	Relevant stakeholders for primary data collection ^{1, 2}	Management or tracking of indicator data	Data sources for tracking progress on indicators and outputs	Data sources for reporting on progress toward the achievement of the outcome: reports and entities implementing adaptation actions ³
4. Capacity of storage constructed in metric tons (MT)	MINAGRI (RAB, NAEB), private sector, NGOs	ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset	Companies and projects: Agriterra and IABM Cooperatives, Tri Seed Ltd.
5. Number of farmers using surveillance tools (fall armyworm [FAW] database, BXW apps, and so on)	MINAGRI (RAB, NAEB), private sector, NGOs	ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset	
6. Area of land under erosion control measures and used optimally	MINAGRI (RAB, NAEB), MoE, Rwanda Land Management and Use Authority (RLUMA), Rwanda Water Resources Board (RWB), districts, private sector, NGOs	MINAGRI-MIS ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset RWB/IUCN dataset	Erosion control mapping report Catchment Restoration Opportunity Mapping Decision Support System (CROM DSS) Companies and projects: Cultivating New Frontiers in Agriculture/Hinga Weze, IUCN, Kinazi Cassava Plant Ltd., Send a Cow Rwanda
7. Percentage of arable land (to the land area)	MINAGRI (RAB, NAEB), RLUMA, RWB, districts, private sector, NGOs	ENR-MIS NDC tracking feature	NISR Seasonal Agricultural Surveys	CFSVA Companies and projects: One Acre Fund
8. Number of hectares under irrigation within the Integrated Water Resources Management framework	MINAGRI (RAB, NAEB), RLUMA, RWB, districts, private sector, NGOs	MINAGRI-MIS ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset	RWB reports Companies and projects: Africa Development Promise, Agriterra and IABM Cooperatives, Trocaire
9. Hectares of crops under insurance	MINAGRI (RAB, NAEB), banks, insurance companies, private sector	MINAGRI-MIS ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset	CFSVA Companies and projects: Agriterra
10. Number of cows under insurance	MINAGRI (RAB, NAEB), banks, insurance companies, private sector	MINAGRI-MIS ENR-MIS NDC tracking feature	MINAGRI Annual Reports FAO/MINAGRI dataset	CFSVA Companies and projects: Enabel, Heifer International, Orora Wihaze

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Notes

Source: REMA, 2019; MoE, 2020; MINAGRI, 2021; REMA, 2019; World Food Programme, 2018; and input received at two MEL workshops held in 2022.

¹ MINAGRI is responsible for collecting primary data and information for each NDC indicator in the agriculture sector. MoE and REMA are implicitly involved as they play a key role in managing, analyzing, and reporting on the data from an adaptation perspective.

² MINAGRI works with MINALOC and district governments to gather local-level information.

³ The companies and NGOs in the table comprise an initial list of entities that could potentially provide information on how their adaptation activities have contributed to the achievement of the expected outcome.

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