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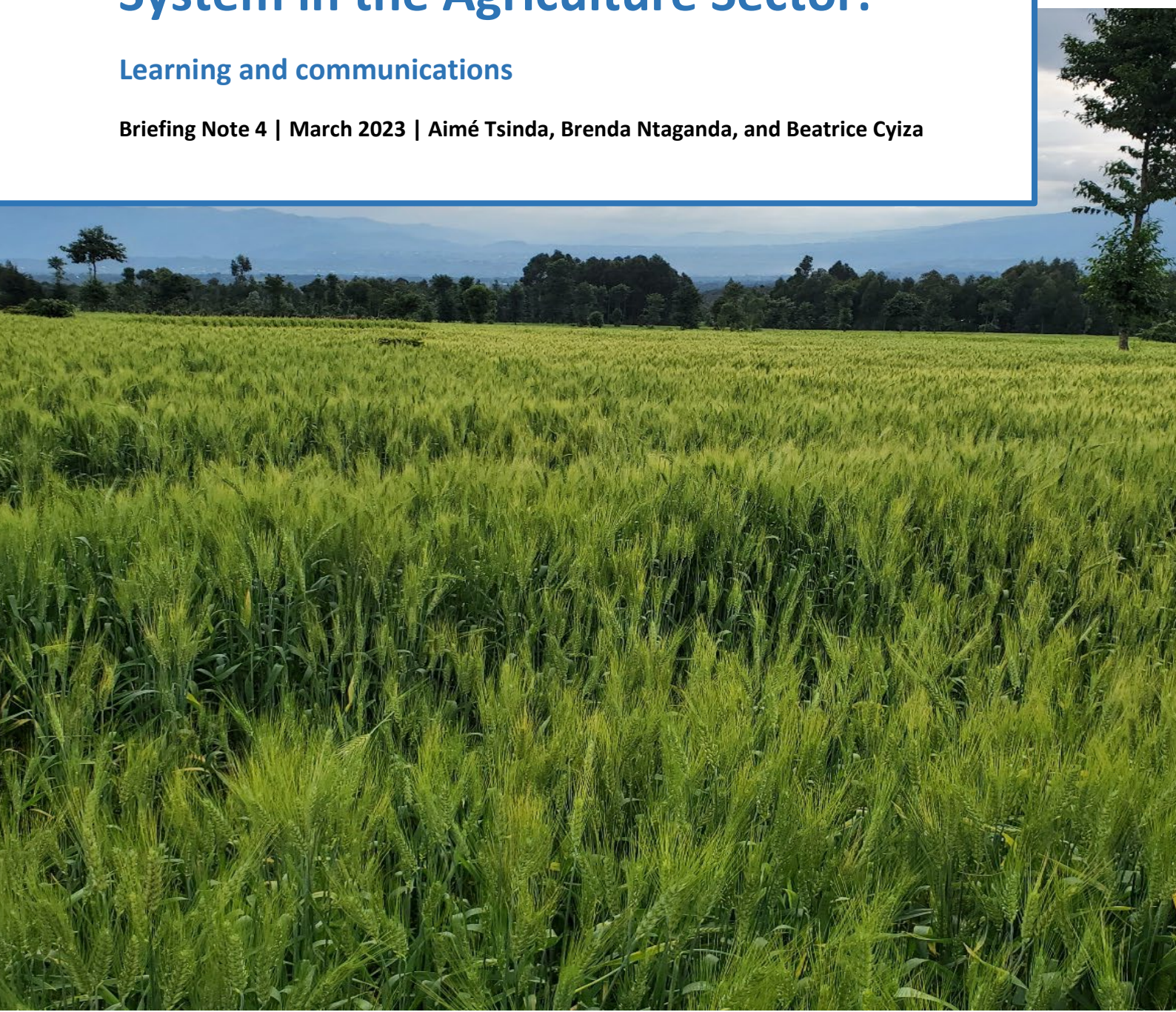
Rwanda's Climate Adaptation Monitoring, Evaluation, and Learning System in the Agriculture Sector:

Learning and communications

Briefing Note 4 | March 2023 | Aimé Tsinda, Brenda Ntaganda, and Beatrice Cyiza



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Briefing Note 4

Ministry of Environment
Department of Environmental and Climate Change
Kigali, Rwanda

Photo: Rwanda Ministry of Environment

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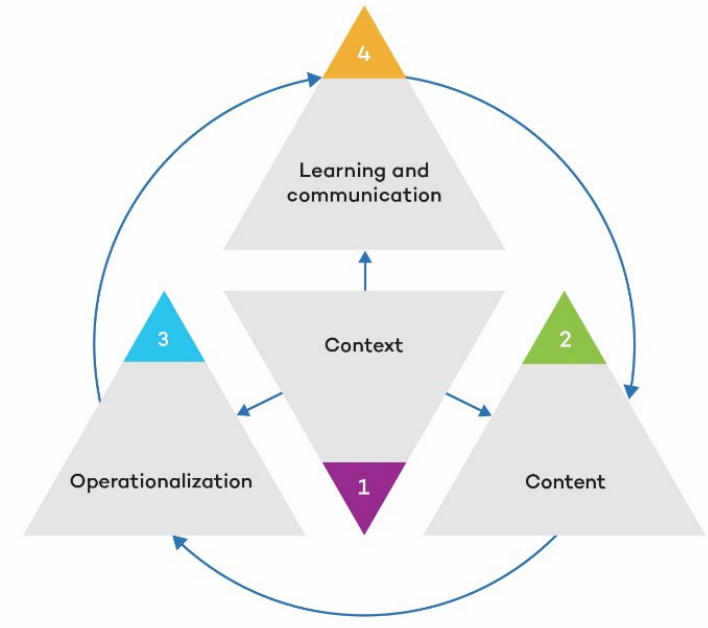
Foreword

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 fourth briefing note in the series focuses on identifying and sharing the lessons that have emerged from Rwanda's adaptation MEL system; on how to communicate the results, including domestic and international reporting; and on informing the policy process.

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List of Abbreviations

BTR	Biennial Transparency Report
GGCRS	Green Growth and Climate Resilience Strategy
GoR	Government of the Republic of Rwanda
MEL	monitoring, evaluation, and learning
MINAGRI	Ministry of Agriculture and Animal Resources
MINECOFIN	Ministry of Finance and Economic Planning
MoE	Ministry of Environment
NAP	National Adaptation Plan
NDC	nationally determined contribution
NST	National Strategy for Transformation
REMA	Rwanda Environment Management Authority
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

Considerable work has been undertaken in Rwanda to establish an adaptation monitoring, evaluation, and learning (MEL) system to track and understand progress on adaptation action. Indicators have been identified, baseline information collected, and a pilot test of the system in the agriculture sector undertaken in 2022. This pilot test included tracking NDC adaptation indicators in the agriculture sector using an agreed-upon data collection spreadsheet, analyzing the data, and taking first steps to collect qualitative information on the impacts of adaptation action through a case study approach. Important next steps include clarifying how the government will learn from and communicate the results of the MEL system.

The aims and objectives of the adaptation MEL system, as set out in Rwanda's 2020 Updated Nationally Determined Contribution (NDC), include to "measure the impact to know that change has happened" and to "facilitate identification of challenges to inform policy changes essential to improve implementation" (Ministry of Environment [MoE], 2020, p. 59 & 69). The 2019 National Environment and Climate Change Policy affirmed that the generation of knowledge and information about climate change adaptation, combined with effective communication strategies, can enhance public participation and awareness (MoE, 2019). In addition, Rwanda's National Monitoring, Evaluation, and Learning Guidelines highlight the importance of using such knowledge and information to inform decision-making (Ministry of Finance and Economic Planning [MINECOFIN], 2021).

This briefing note explores how the information generated by the adaptation MEL system will be processed and analyzed to contribute to learning that will in turn feed into reporting and decision-making to inform planning and policies. Section 2 describes the processes to communicate MEL information, including contributions to national and international reports and processes. Section 3 describes the knowledge that is expected from the MEL system and begins to examine the data-informed element of Rwanda's MEL system from two perspectives: lessons from the adaptation MEL process that was carried out in the agriculture sector and lessons that could inform the MEL of adaptation in other priority sectors. The briefing note concludes with recommendations, set out in Section 4.

2. Communication of Adaptation MEL Information

Communication is about packaging and disseminating the information and results of Rwanda's adaptation MEL system to target audiences. For example, the information on the adaptation NDC indicators in the agriculture sector collected through the MEL spreadsheet tool should be organized, analyzed, and communicated in a way that informs the national policy process as well as international reporting to the United Nations Framework Convention on Climate Change (UNFCCC). The main domestic and international processes for reporting adaptation information and sharing lessons learned are discussed in this section.

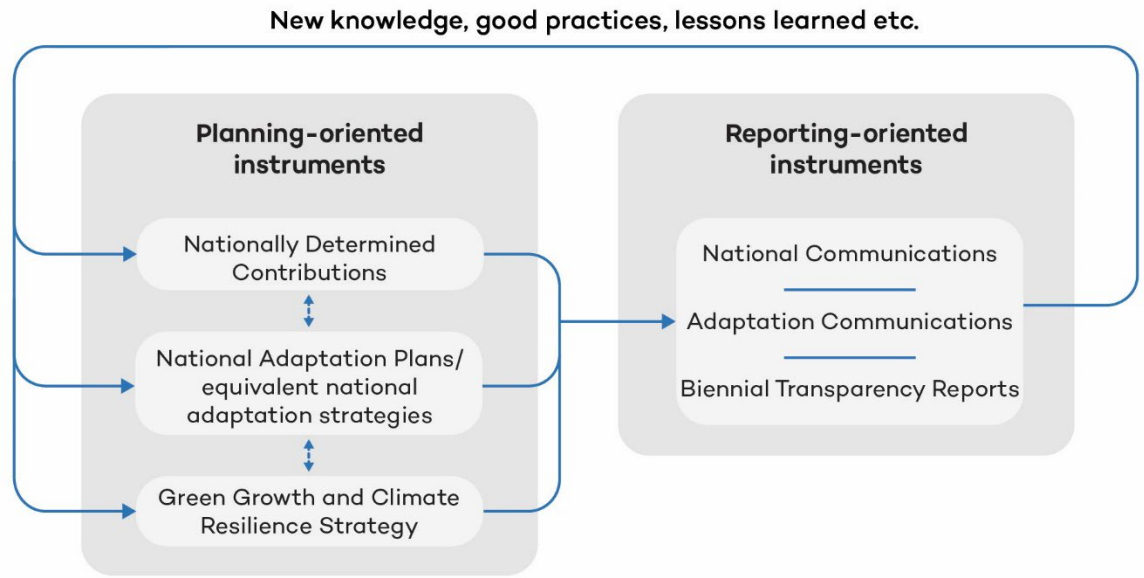
The importance that Rwanda places on reporting on climate change, including adaptation, is reflected in Ministerial Order No. 005/2021, which sets out the procedures for preparing the national report on climate change (MoE, 2021a). The adaptation MEL system will provide information to this national report that will be developed on timelines that facilitate reporting to the UNFCCC. The adaptation MEL information will directly feed into the sections on "programmes that facilitate adequate adaptation to climate change", "undertaking vulnerability assessment and climate change adaptation options for priority sectors," and the "chapter on vulnerability and adaptation to climate change" (MoE, 2021a). This national report and the adaptation MEL information will also feed into domestic reports, which may require additional analysis of the data to identify what is working, where there are gaps in implementation, and what lessons should apply to national policies and programs.

2.1 International Reporting on Adaptation

The Paris Agreement (Article 7.9) highlights the role of adaptation MEL, which is operationalized through the Enhanced Transparency Framework that sets out reporting requirements, including for adaptation. In contrast to reporting on mitigation, which is mandatory, countries can choose what to report on adaptation and through which communication channels. Rwanda's adaptation MEL system can contribute to the country's reporting to the UNFCCC by providing information on the implementation of adaptation plans and actions, on further needs, and on progress assessment. Rwanda's reporting to the UNFCCC takes place through the following mechanisms, also shown in Figure 2.

- National Communications: These reports are to be submitted every four years and can include information on adaptation and mitigation (and must include information on greenhouse gas emissions). Rwanda submitted its Third National Communication in 2018, which included a chapter on vulnerability assessment and adaptation to climate change (REMA and MoE, 2018). Rwanda has begun the process of preparing its Fourth National Communication, which is expected to be completed by August 2024. The adaptation MEL system will provide data and information for the adaptation sections of this international report.

Figure 2. UNFCCC instruments that are informed by Rwanda's adaptation MEL system



Adapted from: Dale, Christiansen, & Neufeldt, 2020, p. 16.

- Biennial Transparency Reports (BTR): BTRs enable countries to report on progress on all substantive elements of the Paris Agreement, including information related to climate change impacts and adaptation under Article 7 of the Paris Agreement. Although it is not mandatory to report on adaptation, the BTR can include information on:
    - The progress of NDC implementation (including adaptation).
    - Climate change impacts and adaptation.
    - Support needed and received: finance, technology, and capacity building.

  All countries are expected to submit these reports every two years, with the first reports to be submitted by December 2024. However, Rwanda, as a Least Developed Country under the UNFCCC, has flexibility to submit its BTRs at its own discretion.[1]

- Adaptation Communications: These reports can include information on adaptation priorities, implementation and support needs, adaptation plans, and adaptation actions. These reports are voluntary and have no set timelines. Rwanda submitted its first Adaptation Communication to the UNFCCC in 2021 (Government of Rwanda, 2021b).

Rwanda can submit combined reports when submission dates overlap, such as a combined National Communication and Adaptation Communication.

[1] BTRs will replace Biennial Update Reports from 2024 onward. The Government of Rwanda submitted its Biennial Update Report to the UNFCCC in 2021, which included information on its greenhouse gas inventory and mitigation actions (Government of Rwanda, 2021). Consistent with the UNFCCC guidance, the Biennial Update Report did not include adaptation information.

2.2 National Reports and Decision-making

The adaptation MEL system is important for informing planning and decision-making in Rwanda, and for generating information for domestic reports and for national planning documents on adaptation relevant to the UNFCCC. For example, the MEL information can feed into the updating of Rwanda's NDC and the implementation of Rwanda's Green Growth and Climate Resilience: National Strategy for Climate Change and Low Carbon Development, which sets out climate resilience and adaptation (and mitigation) priorities for the country as well as programs of action. The updated GGCR strategy was approved by Cabinet in 2023 (Office of the Prime Minister, 2023), and the pilot test of the adaptation MEL system in the agriculture sector provided inputs to the process to update the strategy.

This MEL information can inform policy and planning using established reporting channels. Key results—such as progress and lack of progress on key indicators, and the impacts of adaptation action at the community level—can be shared by the MoE and the Rwanda Environment Management Authority (REMA) through briefing notes, presentations, reviews, and input to relevant working groups. This communication can be horizontal across national government bodies and forums, such as the Permanent Secretaries Forum, the Economic Cluster Working Group, and the Development Partners Coordination Group. The MEL information can also inform sectoral planning by providing inputs and key messages from the pilot test in the agriculture sector to relevant sector working groups (such as the agriculture sector working group and the environment and natural resources sector working group), and relevant thematic or sub-sector working groups (such as those for environment and climate change, forestry and natural resources, water resources, agriculture, and livestock). For example, MoE and REMA can use the lessons from the adaptation MEL system to provide inputs on NDC implementation and adaptation progress to the semi-annual Joint Sector Reviews sessions that track, monitor, evaluate, and report on the implementation of sector priorities, as well as to inform the preparation of Joint Sector Review reports. Vertical communication is also important and can take place through the Joint Action Development Forums at the district level and at community meetings after *umuganda* at the village level.[2]

Through these processes, the adaptation MEL system can inform policy and strategic decision-making across priority sectors for adaptation action. "Environment and climate change" is a cross-cutting area in the first National Strategy for Transformation 2017–2024 (NST-1) (MINECOFIN, 2017), and key strategic interventions set out in the NDC are expected to be embedded in Sector Strategic Plans and District Development Strategies. The MEL results can inform the updating of national sector and district plans and strategies.

The adaptation MEL information can also provide important inputs to assessment reports on the implementation of climate change activities, climate vulnerability and risk assessments, State of Environment Reports, and reporting on the Sustainable Development Goals. As well, the adaptation MEL information can be used to inform dialogue with development partners. For example, the European Union meets with MINECOFIN, MoE, and the Ministry of Agriculture and Animal Resources

[2] *Umuganda* is community work with the purpose of contributing to overall national development. It takes place on the last Saturday of each month, when community members participate in activities to better their communities, such as cleaning streets, repairing public facilities, building schools, and rehabilitating wetlands. *Umuganda* also serves as a forum for government leaders to inform citizens about news and announcements. See: https://www.allaboutrwanda.com/umuganda.html

(MINAGRI) on a regular basis, and the tracking of progress on the NDC adaptation indicators in the agriculture sector can provide valuable information regarding where investment is needed.

Given the important role that dialogue plays in raising the subject of climate adaptation in the policy discourse, more careful consideration should be given to these communication channels. The dissemination and communication of adaptation information should be followed up and reinforced with learning feedback loops. This will help determine whether lessons are being taken up and acted upon and whether they are driving change that delivers positive climate resilience and adaptation outcomes.

3. The Adaptation MEL System: Lessons Learned

Learning is a critical part of the adaptation MEL system, as it focuses on analyzing the collected data and information and using it to inform decision-making (see Box 1). Examples of learning include:

- Understanding which adaptation needs are sufficiently addressed and where additional efforts are needed.
- Reviewing adaptation experiences and adaptation outcomes.
- Using improved understanding of how and why adaptation has worked to inform policy- and decision-making.
- Modifying policies and plans using data and information (Price-Kelly et al., 2015).

Box 1: Adaptation MEL learning: A definition

- **Learning**: A process to reflect upon information generated from monitoring and evaluation, and then using this information to inform decision-making and improve programs and actions to achieve desired results.

Learning about adaptation includes producing knowledge and exploring what has worked and what has not, as well as which adaptation actions have led to better development outcomes despite worsening climate hazards (and which have not) and why.

Source: Briefing Note 1: Aims, Objectives and Needs

To facilitate learning and inform future adaptation programming, Rwanda's adaptation MEL system can identify good practices and assess what has worked and what has not worked by exploring such questions as:

- What action is needed on those indicators where progress is not as expected?
- What indicators need revision?
- Are adaptation actions influencing resilience as intended?
- What are best practices and successes?
- Are there barriers to the implementation which have not been identified and planned for?
- What skills and capacities are needed to improve adaptation outcomes and the tracking of progress on adaptation actions?

The pilot test of Rwanda's adaptation MEL system began to explore these questions. This section discusses the lessons that are emerging about MEL in the agriculture sector and about advancing adaptation MEL in other NDC priority sectors.

3.1 Lessons Learned: Adaptation MEL in the Agriculture Sector

The pilot test of Rwanda's adaptation MEL system in the agriculture sector was successful in tracking the NDC indicators, by collecting baseline information, tracking updated NDC information for each indicator, setting out the institutional arrangements, and identifying the roles and responsibilities for the key government institutions engaged in adaptation MEL. The pilot test determined that baseline data is available and progress on adaptation actions can be tracked, including in the short term (over two years). The key lessons from the pilot testing of the adaptation of the MEL system in the agriculture sector are described below.

1. The pilot test demonstrated that the Government of Rwanda can collect information on the NDC adaptation indicators in the agriculture sector and monitor and measure whether the implementation of adaptation actions has met planned targets. The quantitative data was collected from MINAGRI and other sources and organized using a spreadsheet template.

2. Data availability for MEL in the agriculture sector has been investigated as part of the process to assess the strengths and areas for improvement in the MEL framework. Key lessons about the data include:
    - The NDC includes clear and measurable indicators, with MINAGRI and partners able to provide baseline data and information to track outputs.
    - Measurement of the outcome requires qualitative data.
    - Data disaggregated by gender is typically not available.

3. The tracking of the 10 adaptation NDC indicators in the agriculture, while taking place within a short timeframe (2019 to 2022), provided an initial assessment of the implementation of priority adaptation actions set out in the 2020 NDC. Based on this tracking, the indicators were grouped into three categories that reflect achievements to date and forecast future trends:
    - Indicators tracking progress toward targets that are highly likely to be achieved or exceeded by 2025 and 2030, such as the number of climate-resilient crop varieties developed, and the number of hectares constructed under radical and progressive terraces.[3]
    - Indicators tracking progress toward targets that are likely to be achieved by 2025 and 2030 with continued focus on delivering activities, such as the number of farmers using surveillance tools, the percentage of arable land (to the land area), the number of hectares under irrigation within the integrated water resources management framework, and the number of hectares of crops under insurance by 2030.

[3] Radical and progressive terraces are climate adaptation strategies that deal with the adverse effects of climate change manifested by heavy rains and causing soil erosion. While the radical terraces are essentially designed to reduce soil losses through enhanced retention and infiltration of runoff, to promote permanent agriculture on steep slopes and to promote land consolidation and intensive land use, the progressive terraces are used as climate smart techniques to stabilize the soil to prevent soil erosion.

- Indicators that are off-track and likely not to be achieved by 2025 and 2030 without significant interventions, such as the percentage of farmers adopting climate-resilient crop varieties, the storage capacity constructed in metric tonnes, and the number of cows (or other livestock) under insurance.

The tracking of NDC indicators in the short term has identified that some targets are being met. In addition, the tracking results also help to identity those adaptation actions that require a longer-term focus to achieve greater adaptation impacts, such as the actual use and uptake of climate-resilient seeds.

4. MoE, working with REMA, MINAGRI, and partners, was able to use qualitative case studies to undertake an initial assessment of the NDC expected outcome of "increased productivity, nutritional value and resilience through sustainable, diversified, and integrated crop, livestock, and fish production systems in a gender-responsive and climate resilient manner" (MoE, 2020). The case studies collected initial information that provided evidence that the implementation of various adaptation actions—improved seeds, irrigation, and crop insurance—was contributing the expected NDC outcomes. For example, the use of improved seeds has increased the climate resilience of local communities. In addition to increasing agricultural production and yields as well as household incomes, the improved seeds are pest- and disease-resistant and drought-tolerant, meaning that production is possible in all seasons[4] for Irish potatoes, during the off season for maize, and during the hot season for soybeans. Furthermore, the solar irrigation systems have been critical for improving yields, reducing vulnerability to droughts and changing rainfall patterns, and enabling multiple cropping practices. In some contexts, farmers using irrigation achieved a 50% average yield increase in seasons A and B and were also able to produce in season C because they could grow crops in the dry season.

5. Data on indicators and outputs should be tracked at regular (annual) intervals, with an initial focus on tracking indicators based on actions led by the government. Continued work should be undertaken to understand progress at the outcome level—for example, how the implementation of adaptation actions has contributed to reducing climate vulnerability and building resilience. Case studies are one method to understand the impacts of adaptation actions, including those implemented by the private sector and civil society.

6. Increase awareness at the local level of priority NDC adaptation actions in the agriculture sector and the data to be collected to report on those actions. MoE and REMA could work with the Ministry of Local Government and MINAGRI to decentralize NDCs at the district level. This could include sensitizing and building the capacity of agricultural inspectors, relevant staff within districts, private sector entities, and non-governmental organizations. This would improve the buy-in and ownership of the priority climate change actions by these stakeholders and contribute to their willingness to provide data and information to enhance the tracking of NDC adaptation indicators.

[4] Rwandan farmers follow a three-season annual planting schedule. Season A, during which most farmers grow maize, runs from September to February. Season B, during which farmers tend to grow beans, runs from March to July. Season C is the shortest, running from July to September; depending on their location, farmers may grow vegetables or Irish potatoes during this time.

3.2 Lessons Learned: Advancing Adaptation MEL in Other NDC Priority Sectors

The lessons from the pilot test to operationalize the adaptation MEL system in the agriculture sector can serve as an example for other sectors. However, differences might exist from one sector to another, and what works in the agriculture sector may not necessarily work in another sector. Each sector is unique and the operationalization of MEL depends on several factors, including data availability, the sources and types of data, and the availability of skilled personnel to lead the MEL work. Key lessons are described below.

1. MEL requires human and financial resources, including budget allocations and the assignment of responsibilities related to MEL tasks. Currently, the limited budget and lack of personnel to manage the adaptation MEL system is a constraining factor. MoE and REMA need to identify focal points for adaptation MEL along with clear roles and responsibilities. In addition, financial and technical support is required to improve the coordination of and engagement with stakeholders.

2. Increasing awareness is critical to implementing and tracking NDC actions, particularly at the local level. While stakeholders at the central level have a good command of NDC actions and understand the need to monitor adaptation actions, the level of awareness of the NDC is relatively low among district officials, which impacts the implementation of adaptation actions as well as the collection and submission of data on these actions as part of the adaptation MEL framework.

3. The operationalization of the adaptation MEL system in other priority NDC sectors should focus on the following steps:
    - Understand the policy context for adaptation MEL in the given sector.
    - Map out the main stakeholders and identify leads in the priority sectors.
    - Identify or review NDC indicators to track adaptation in the given sector.
    - Identify the sources and type of data and information required for each indicator. Begin collecting data using the spreadsheet template that is modified for the sector.
    - Identify the institutional framework to guide adaptation MEL in the given sector.
    - Analyze data from the tracking of NDC indicators to understand where progress is being made and where there are challenges.
    - Identify potential case studies or evaluation options to begin to explore progress toward expected outcomes.
    - Enable the integration of the analysis and lessons learned into planning, decision-making, and reporting.

4. Recommendations

The lessons that have resulted from the pilot test of the operationalization of Rwanda's adaptation MEL system in the agriculture sector lead into strategic recommendations. These recommendations are discussed in the section under three headings: the lessons, reporting and communications, and the way forward.

4.1 Lessons from the Adaptation MEL System

- The current MEL adaptation system in the agriculture sector in Rwanda is robust but is focused on tracking indicators that provide information on the implementation of actions and short-term outputs. Over the medium and long term, the MEL adaptation system will need to explore how these actions lead to longer-term outcomes and impacts in the form of reductions in climate vulnerability and improvements in adaptive capacity. This could include exploring options for evaluating the impacts of the implementation of priority NDC adaptation interventions.
- Consider aligning the tracking and analysis of data in the MEL system with Rwanda's climate risk and vulnerability assessments. This could help to improve the understanding of how adaptation actions address climate risks and whether they are effective at reducing climate vulnerability.
- Clarify how the information generated by the adaptation MEL system will be presented, shared, developed into reports, and fed into policy, planning, and decision-making processes. Identify the frequency and formats for analyzing and reporting on the data collected through the tracking of the NDC indicators. This could include identifying evidence and lessons as well as developing key messages, briefing notes, and presentations.
- Identify target audiences for the key messages and identify stakeholders, such as universities and research institutions, that may use the collected data to undertake further analysis and learning.
- Ensure that the lessons from the MEL systems inform the updating of NDC measures in 2025, the preparation of the second NST, and activities to be implemented under the revised GGCRS,[5] which will be included in the District Development Strategies and Sector Strategy Plans.

4.2 The Adaptation MEL System and Reporting

- Agree on the frequency and timing for collecting and analyzing MEL data and for generating reports from the adaptation MEL system. The timeframe should allow for the information to feed into domestic and international planning and reporting, such as the mid-term evaluation of NDC and its revision in 2025, the NST-2 to be completed by the end of 2024, and Rwanda's first BTR, which is to be submitted to the UNFCCC Secretariat by December

[5] This was approved by the Cabinet of the Government of Rwanda on January 30, 2023 (Office of the Prime Minister, 2023).

2024. The government could consider adopting a biennial cycle for collecting and analyzing adaptation MEL data to ensure alignment with the timing of the BTRs.

- Disseminate information and lessons learned horizontally and vertically within the country to inform policy, planning, and programming.
- Ensure that all adaptation MEL data is publicly available. For example, once verified, the spreadsheet showing the NDC adaptation indicator tracking data and all reports should be available on MoE's website to enable public access to the information.
- Consider preparing a MEL communications strategy that sets out key stakeholders, information dissemination tools, links to national and international reporting, and timing of reporting.

4.3 The Way Forward

- Continue with a phased approach by identifying a next sector in which to operationalize the adaptation MEL system while continuing to track NDC indicators and analyze adaptation data in the agriculture sector.
- Review the roles and responsibilities of the staff members within MoE and REMA and assign at least one staff member to be responsible for the adaptation MEL system.
- Engage development partners to identify and contribute financial and technical support for Rwanda's adaptation MEL system.
- Consider expanding the adaptation MEL system to track support received for adaptation (climate finance, capacity-building, and technology transfer).

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