



Designing an Integrated Measurement Reporting and Verification (MRV) Tool and Database for The Gambia

June 2021

ACKNOWLEDGEMENTS

Contact person

Alpha A.K. Jallow (UNFCCC Focal Point, Department of Water Resources, Ministry of Climate Change & Natural Resources).

Authors

Naveen Kumar Pawar (Subbarao Consulting Services)
Srikanth Subbarao (Subbarao Consulting Services)

Contributors and reviewers

Alexandra Soezer, Almamy Camara,
Fatoumatta Sanyang (UNDP)

Jainaba Fatty (Ministry of Environment Climate
Change and Natural Resources – MECCNAR)

Alpha K. Bah (Department of Water Resources – DWR)

Kemo Fatty (Greenup Gambia)

Manfred Stockmayer (Energy Changes)

Editor

Leah Brumer

Design and layout

Kimberly Koserowski

Produced by

Subbarao Consulting Services, New Zealand

This publication should be cited as: United Nations Development Programme (2021). The Gambia Climate Promise, The NDC Update Report, UNDP, New York.

UNDP CLIMATE PROMISE

UNDP is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet. Learn more at undp.org or follow at @UNDP.

DONOR AND PARTNER ACKNOWLEDGEMENT

This product was developed under UNDP's Climate Promise, with generous funding from the governments of Germany, Sweden, Spain, Italy, the European Union, and UNDP's other core contributors.

DISCLAIMER

The views expressed in this publication are those of the author(s) and do not necessarily represent those of the United Nations, including UNDP, the NDC Partnership, the governments of Germany, Sweden, Spain, Italy, the European Union or UNDP's other core contributors.



CONTENTS

LIST OF FIGURES	2
ACRONYMS	3
BACKGROUND AND CONTEXT	4
ABOUT THIS REPORT	5
MONITORING, REPORTING AND VERIFICATION (MRV) UNDER THE PARIS AGREEMENT	6
MRV TOOL – DESIGN PRINCIPLE	7
Integrated MRV Tool – Key features	7
Integrated MRV Tool – Key components	8
Integrated MRV Tool – Operational structure	9
MODULE 1 - GHG INVENTORY	10
GHG inventory – Process flow	12
Climate action (mitigation/adaptation/climate finance/SDG)	13
MODULE 2 – MITIGATION ACTION TRACKING	16
MODULE 3 – ADAPTATION ACTION TRACKING	19
MODULE 4 – CLIMATE FINANCE FLOW TRACKING	24
MODULE 5 – SDGS TRACKING	27
Integrated MRV Tool - Institutional structure	29
Operational Overview	30



LIST OF FIGURES

Figure 1: MRV tool: Design principles	7
Figure 2: Integrated MRV tool: Key features	7
Figure 3: The Gambia’s integrated MRV tool: Key components	8
Figure 4: Structure of The Gambia’s integrated MRV tool	9
Figure 5: Operational structure of integrated MRV tool	10
Figure 6: GHG inventory module: Approach and methodology	11
Figure 7: Mitigation action tracking module: Approach and methodology	16
Figure 8: Mitigation action: Create project (Gambia iMRV tool)	17
Figure 9: Mitigation action: Project information and monitoring (Gambia iMRV tool)	18
Figure 10: Mitigation action: Mitigation report (Gambia iMRV tool)	18
Figure 11: Adaptation action tracking module: Approach and methodology	19
Figure 12: Adaptation action: Create project (Gambia iMRV tool)	22
Figure 13: Adaptation action: Report (Gambia iMRV tool)	23
Figure 14: Climate financial flow approach	24
Figure 15: Climate finance tracking module: Approach and methodology	25
Figure 16: Climate finance: Report (Gambia iMRV tool)	26
Figure 17: SDG tracking: Report (Gambia iMRV tool)	20



ACRONYMS

ASALs	Arid and Semi-Arid Lands
BUR	Biennial Update Reports
CAIT	Climate Action Impact Tool
CCD	Climate Change Directorate
ETF	Enhanced Transparency Framework under Paris Agreement
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
MECCNAR	Ministry of Environment, Climate Change and Natural Resources
MRV	Monitoring (Measuring), Reporting and Verification
NAP	National Adaptation Plan
NC	National Communications to the UNFCCC
NDCs	Nationally Determined Contributions
PA	Paris Agreement
SDGs	Sustainable Development Goals
UNFCCC	United Nations Framework Convention on Climate Change



BACKGROUND AND CONTEXT

The Paris Agreement (PA), adopted in December 2015, sets out a global action plan that puts the world on track to avoid dangerous climate change by limiting global warming to well below 2°C. It refers to the NDCs - Nationally Determined Contributions - that every country should make to achieve the worldwide goal set to reduce greenhouse gas (GHG) emissions. Under Article 13 of this Agreement, all countries agreed to an enhanced transparency framework (ETF) for action and support. It incorporates flexibility, considers Parties' varying capacities and builds on collective experience. The Gambia completed its Intended Nationally Determined Contribution (INDC) for submission to the United Nations Framework Convention on Climate Change (UNFCCC) in September 2015. That submission was included, along with other countries', in the Global Synthesis Report presented at UNFCCC COP 21 in Paris. The Gambian government signed the PA at UN headquarters in November 2016.

The Gambia's Low-Emission and Climate-Resilient Development Strategy and the Strategic Priorities for Climate Resilience were developed and approved in 2016 and 2017, respectively. Both lay out a vision for addressing climate change that calls for balancing the country's development needs with protecting its environment. The Gambia is currently revising its NDCs to put forward the next generation of NDCs in 2021. The revised document is intended to articulate strong gender-sensitive and medium- and long-term climate strategies. Inclusion of new sectors, updating of emission targets by sector, and enhancing political buy-in, ownership and coordination are main areas for revision.

The Gambia's Department of Climate Change, which is housed within the Ministry of Environment, Climate Change and Natural Resources (MECCNAR) is a nodal agency responsible for overseeing and implementing climate change activities (mitigation, adaptation and cross-cutting) and monitoring climate finance, including climate change communication and awareness raising.

UNDP supports the Gambian government in its efforts to enhance and revise the NDCs to incorporate new sectors and/or GHGs. This also involves support to develop an integrated and intuitive monitoring (measuring), reporting and verification (MRV) tool to track emission reductions at project level and improve effectiveness of reporting on mitigation and adaptation measures. A robust MRV system is important for national policy decisions and is a key requirement under the UNFCCC and the PA.



ABOUT THIS REPORT

The Gambia's integrated MRV tool aims to assist MECCNAR and other line ministries/departments to develop an efficient and strategic domestic national MRV system.

This report provides a detailed analysis of the tool's design and structure, including five components/modules based on stakeholder consultations.

- Module 1: GHG inventory
- Module 2: NDC/Mitigation action tracking
- Module 3: Adaptation priority tracking
- Module 4: Climate finance tracking
- Module 5: Sustainable Development Goals (SDGs) tracking

In addition to the above, the mitigation and adaptation modules also cover cross-cutting issues, such as human rights, gender-responsive climate change actions and protection of vulnerable groups. Each module includes the following key features:

- Methods for generating, recording, storing, aggregating, collating and reporting data on the parameters monitored;
- Sources of data, measurement methods and procedures, and data sharing protocols, including the frequency of monitoring/recording;
- Procedures for reporting by both public institutions (national and district levels) and private entities;
- Linkages to SDGs and gender-responsive indicators; and,
- QA/QC procedures.

The tool is intended to enhance the monitoring, tracking, reporting and verification of climate activities, including GHG emissions, mitigation, adaptation and the SDG impact of climate change projects, programme and policies. This is expected to help leverage international, regional, and domestic public and private climate finance flows. The Gambia's integrated MRV tool is robust and builds on available resources, including data, human resources and human resource capacities, and existing monitoring and reporting systems (data collection and analysis). It places a minimal additional burden on the reporting agency and relevant stakeholders.



MONITORING, REPORTING AND VERIFICATION (MRV) UNDER THE PARIS AGREEMENT

The purpose of the framework for transparency of actions under the PA is to provide a clear understanding of climate change action in light of the Convention's objective under Article 2, including clarity and tracking of progress toward achieving the Parties' individual nationally determined contributions and their adaptation actions, including good practices, priorities, needs and gaps, to inform the global stock take under the Agreement's Article 14. The enhanced transparency framework demands substantial and immediate progress on countries' domestic MRV systems and strategic decarbonization planning.

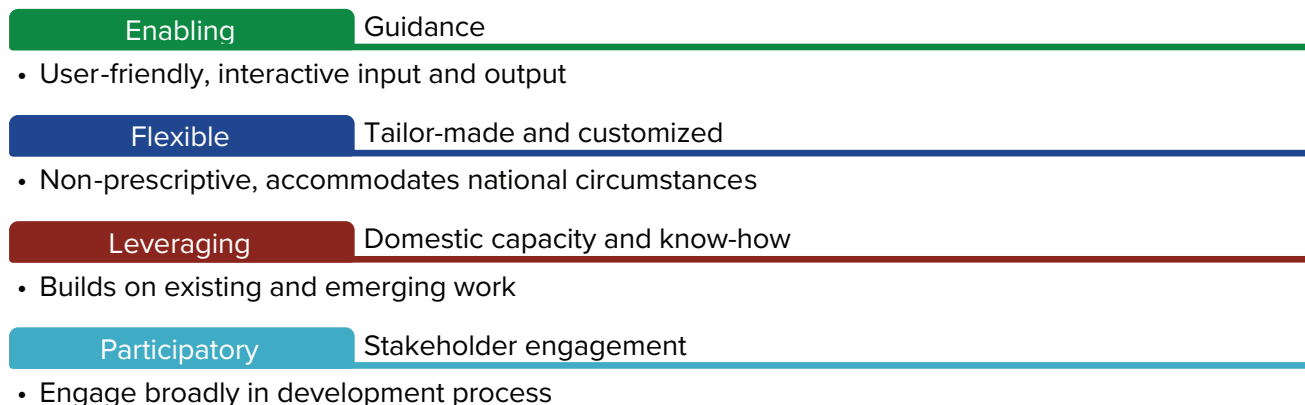
A robust MRV system is important for national policy decisions and a key requirement under the UNFCCC and the PA. The Gambia is expected to participate in existing UNFCCC MRV arrangements, including preparation and submission of national GHG inventory reports, national communications (NC) and biennial update reports (BUR), and international consultation and analysis processes. Further, under the PA commitments, The Gambia will be required to participate in the ETF, which builds on existing arrangements. The country will also be required to communicate the national GHG inventory, NC, biennial transparency reports, progress on NDC implementation, adaptation communications and reporting on support (provided/received).

The purpose of the ETF is to provide a clear understanding of climate change action in light of the objective, including clarity and tracking of progress towards achieving nationally determined contributions, and adaptation actions, including good practices, priorities, needs and gaps, to inform the global stock take. The ETF also provides clarity, to the extent possible, on support provided and received towards climate change actions and provides a full overview of aggregate financial support provided to inform the global stock take.

An integrated MRV system and database (or MRV tool) for The Gambia's updated NDCs is envisaged to implement the PA agreement effectively and provide transparency in communicating the domestic actions, strategies and action plan to the domestic and international stakeholders.

MRV TOOL – DESIGN PRINCIPLE

Figure 1. MRV tool: Design principles



The integrated MRV tool was developed using simple design principles to provide an ‘enabling’ system for the user. The tool has a user-friendly interface and the modular approach adopted accommodates specific national circumstances and future development. ‘The tool builds on existing and emerging work in the country and uses domestic expertise, including engaging strategic process stakeholders broadly in development processes.

INTEGRATED MRV TOOL – KEY FEATURES

Monitoring GHG emission reductions, SDG parameters and financial flows for each project/programme will also improve international/bilateral cooperation. The resulting GHG emission reductions may also be used as internationally transferred mitigation outcomes under Article 6 of the PA. The integrated MRV tool also meets most of the ETF requirements under the Agreement and can be expanded for market and non-market approaches under its Article 6.

Figure 2. Integrated MRV tool: Key features



The unique feature of the integrated MRV tool is its ability to monitor, track and report the SDG impacts (full environmental, social and economic impacts as per the UNDP Climate Action ImpactTool (CAIT) for each climate action (mitigation action and adaptation activities) at the project/programme level. This is extremely helpful in aligning climate actions, including NDCs, National Adaptation Plans (NAP) and Nationally Appropriate Mitigation Actions with the SDGs by linking climate actions policies and priorities to national SDGs.

Finally, the integrated MRV tool helps to achieve multiple objectives, such as: tracking and reporting GHG inventory and progress on climate actions and NDCs; promoting integrated national planning; and assessing transformational impacts resulting from processes and outcomes of policies and actions intended to drive structural social changes towards climate change mitigation, adaption and sustainable development.

INTEGRATED MRV TOOL – KEY COMPONENTS

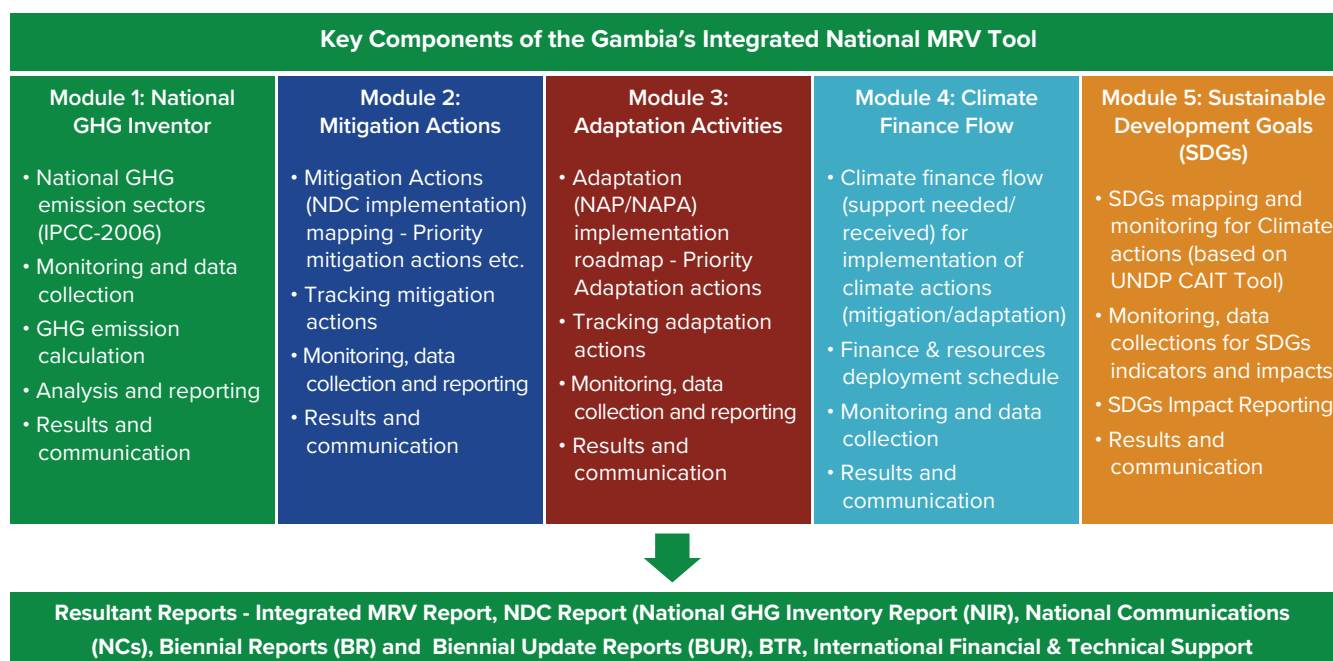
The integrated MRV tool is a first-of-its-kind initiative that enables monitoring/data collection, tracking, reporting and verification of: GHG emissions (inventory) in accordance with 2006 Intergovernmental Panel on Climate Change (IPCC) guidelines; the impact of mitigation actions (NDC); the impact of adaptation activity; climate finance flows (support received/needed); and (5) SDG impacts, based on the UNDP CAIT.

The tool developed for The Gambia is an information and communications technology, web-based (AWS cloud server) MRV system designed specifically to address national requirements in The Gambia. It is based on an extensive desktop review of documents, followed by stakeholder consultations and discussions with the MECCNAR. The tool provides an overarching structure, approach, and methodology for:

- National GHG emission monitoring and inventorying;
- International and domestic reporting requirements (e.g., modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the PA, NC, BUR and other);
- Real-time monitoring, progress reporting on and archiving of GHG mitigation and climate change mitigation actions;
- Real-time monitoring of, progress reporting on and archiving the impact of climate change adaptation actions;
- Climate financial flows and progress towards implementation of climate actions; and,
- Monitoring of, progress reporting on and archiving the impact of climate change actions (both mitigation and adaptation) on the SDGs.

Existing national processes for data gathering and monitoring were examined before the MRV system was designed and implemented to allow for efficient integration of the existing arrangement. Appropriate monitoring indicators and parameters (for example, sectoral and sub-sectoral data needs) were identified so that the key parameters could be monitored at the NDC action, sectoral or subsector level.

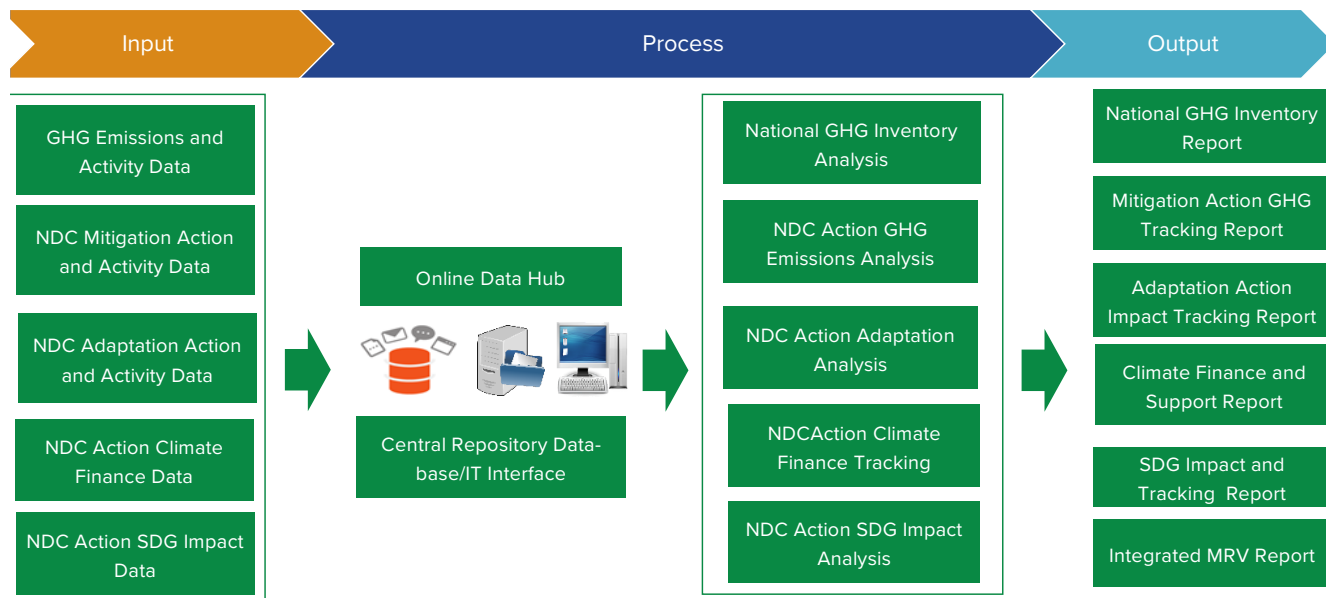
Figure 3. The Gambia's integrated MRV tool: Key components



INTEGRATED MRV TOOL – OPERATIONAL STRUCTURE

The approach adopted for the MRV system design and implementation framework in The Gambia used the existing institutional and information management system for knowledge and information sharing. This was achieved through an integrated MRV system for The Gambia focusing on objective and key results to be communicated domestically and under the international transparency framework.

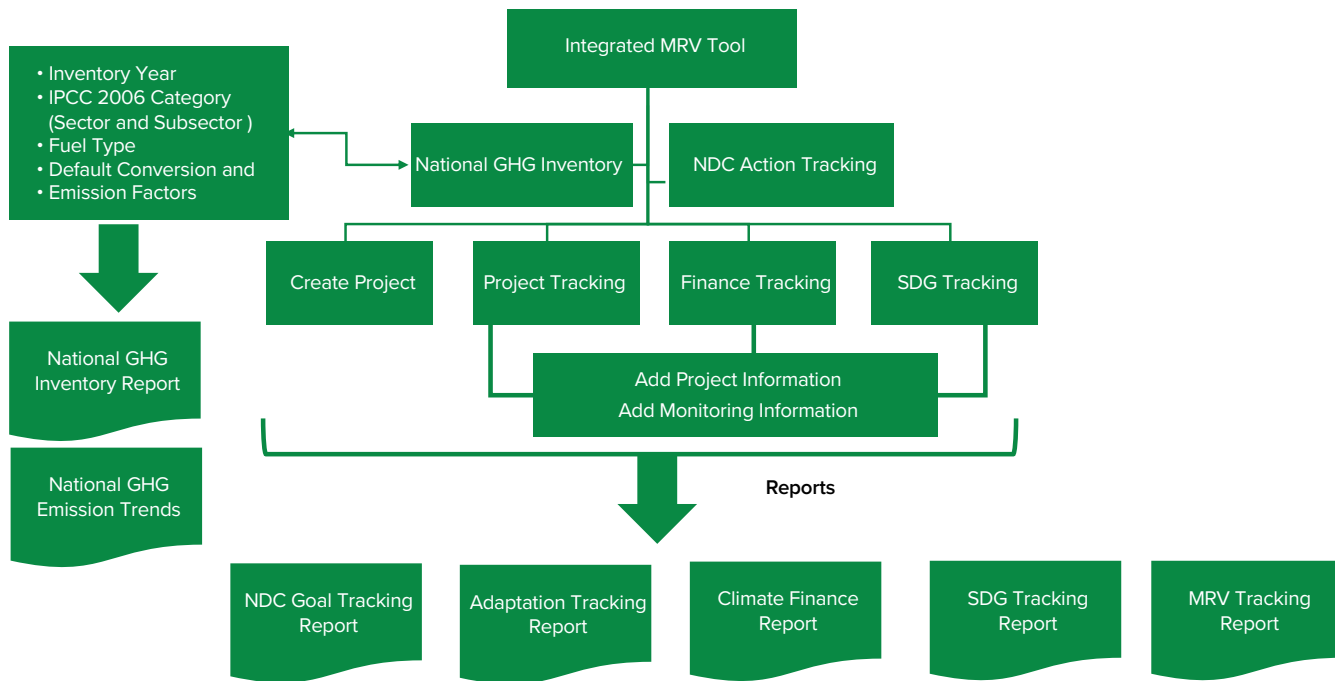
Figure 4. Structure of The Gambia's integrated MRV tool



The integrated MRV framework rollout strategy had four key components:

- Data measurement, monitoring and reporting, including interactive IT and enabled data collection templates for activity level and sectoral data;
- Institutional collaboration: building on existing data collection and data-sharing network, well-defined key roles and functions;
- Analysis, reporting and communication: data processing, analysis and review; report generation; communication; online public access database and archiving; and,
- Support infrastructure: IT hardware and software (implementation and operations and maintenance support); continuous training; and capacity building.

Figure 5. Operational structure of integrated MRV tool



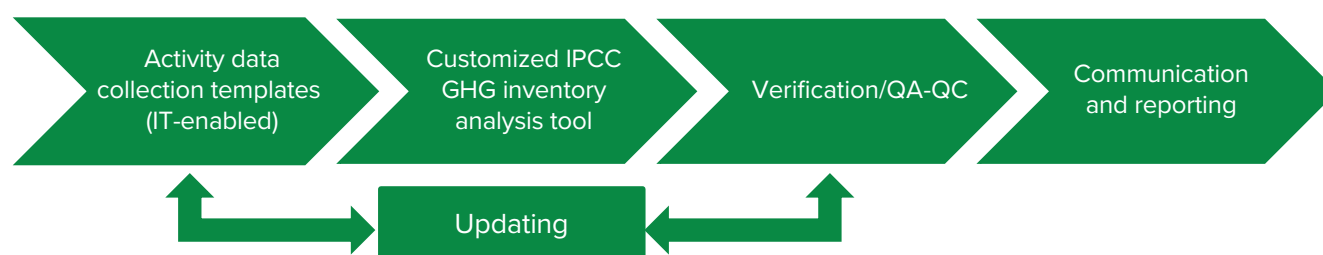
MODULE 1: GHG INVENTORY

A national inventory report of anthropogenic emissions by sources and removals by sinks of GHG, prepared using good practice methodologies accepted by the IPCC and agreed upon by the Conference of the Parties serving as the Meeting of the Parties (CoP/MoP) to the Paris Agreement (PA Article 13, Paragraph 7a).

The national GHG inventory is typically an annual inventory of anthropogenic emissions by sources and removals by sinks of GHG not controlled by the Montreal Protocol. It also provides implied emission factors, activity data and supplementary information. The national GHG inventory can be conducted at several levels - national, subnational, organizational, institutional or facility - in accordance with domestic capacity and interest. However, as per the international reporting requirement, GHG emissions are to be monitored at the national level. Each country (party) is to provide this information regularly. Thus, frequency and quality of GHG emission reporting and measurement are important elements of the national GHG inventory.

The proposed national GHG inventory module builds upon the previous national GHG inventories and database that collects relevant information, existing sectoral and local data monitoring and collection systems, and existing institutional networks. It improves on the system by integrating new IT-enabled tools, standard operating procedures, capacity building and training, and international best practices to meet the unique requirements and circumstances of The Gambia.

Figure 6. GHG inventory module: Approach and methodology

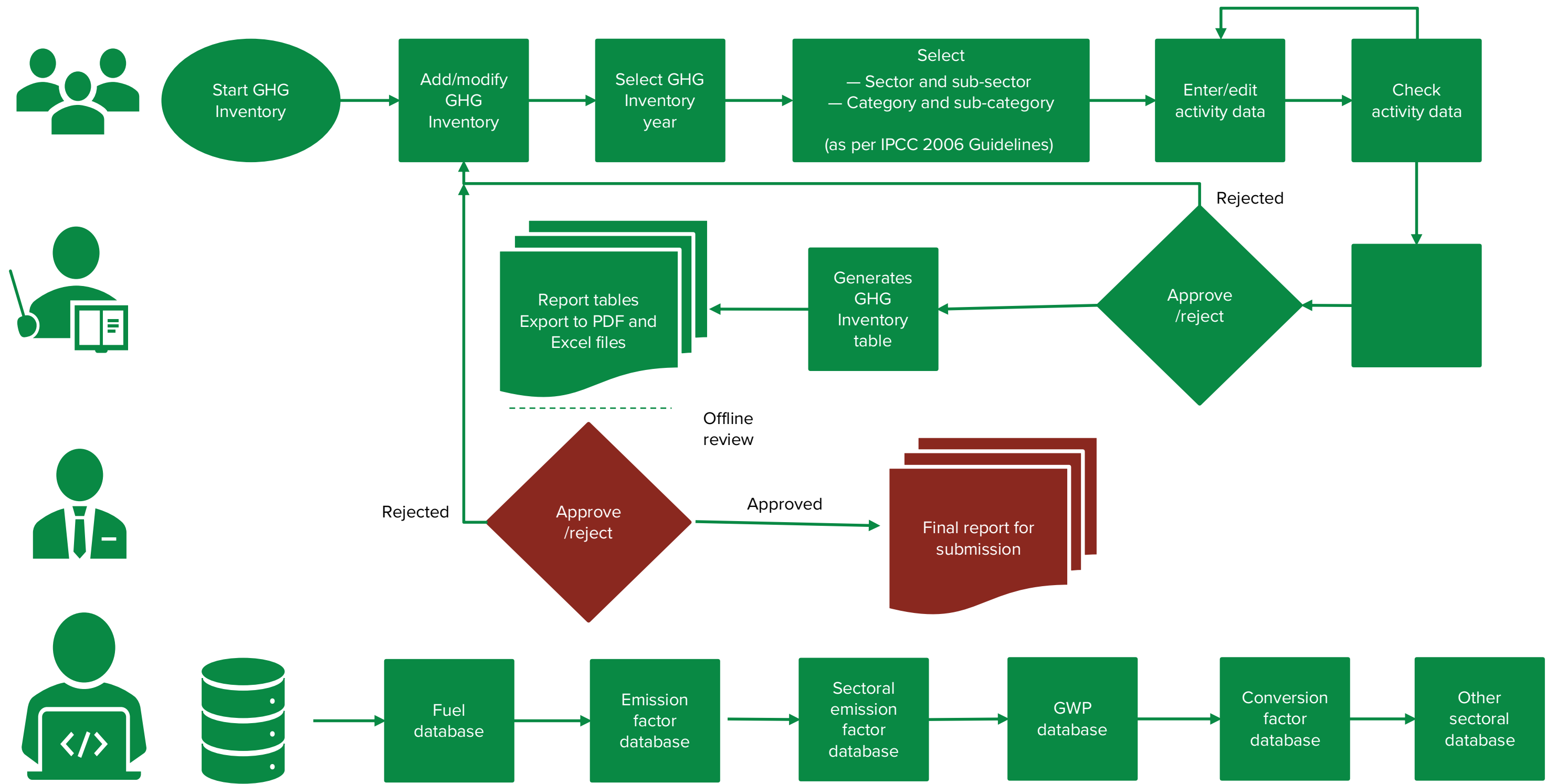


The objective of the national GHG inventory is to communicate and report on annual anthropogenic GHG emissions from sources and removals from sinks. Direct GHG emissions of gases monitored include: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); nitrogen oxides (NO_x); carbon monoxide (CO); non-methane volatile organic compounds (NMVOC); and sulphur dioxide (SO₂) from sectors such as energy, industrial processes and product use, agriculture, forestry and other land use, and waste.

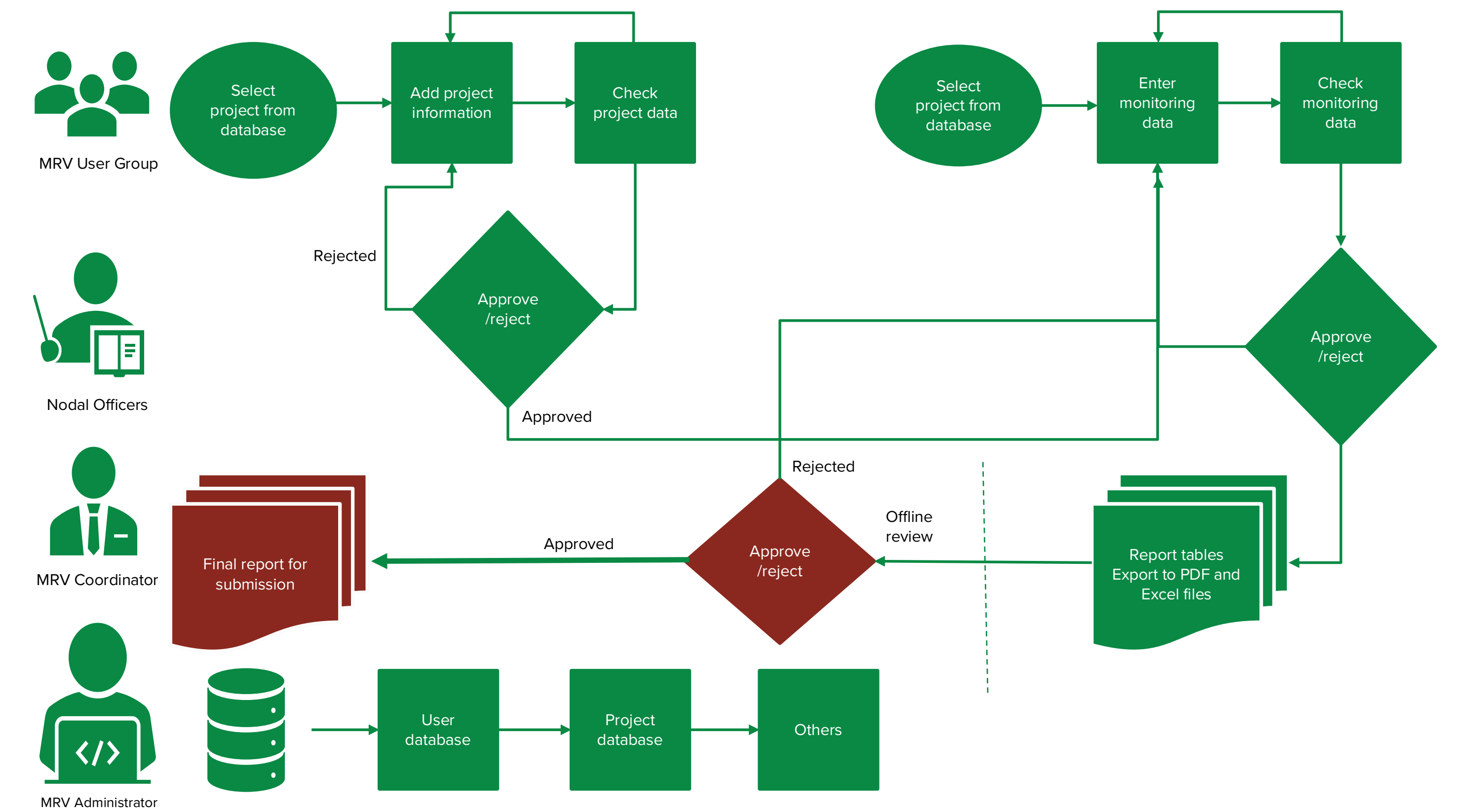
The GHG inventory module designed for The Gambia is based on the IPCC National Greenhouse Gas Inventory Tool and emission calculation templates. The purpose of this module is to customize the inventory tool based on The Gambia's specific requirements and to make it more user friendly and resource efficient. The module will implement the Tier 1 methodologies in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for preparing national GHG inventories based on 2006 IPCC Guidelines, either for complete inventories, separate categories or groups of categories. The module's basic approach is to facilitate completing the 2006 IPCC Guidelines category worksheets, entering activity and emission factor data. In addition, it also supports many other functions related to database administration, quality control, data compilation and data reporting.

The Gambia's previous GHG inventory was reviewed for relevant sectors, subsectors, categories and subcategories to be included in the GHG inventory module.

GHG INVENTORY – PROCESS FLOW



CLIMATE ACTION (MITIGATION/ADAPTATION/CLIMATE FINANCE/SDG)



MODULE 2 – MITIGATION ACTION TRACKING

Each Party shall regularly provide the information necessary to track progress made in implementing and achieving its nationally determined contribution (PA - Article 13, Paragraph 7b).

Monitoring and tracking national climate change mitigation actions are important aspects of the integrated MRV tool. The rationale for introducing this module under integrated MRV is to be able to track, monitor and update policymakers, decision makers, project implementers, managers and stakeholders on the status and progress of mitigation actions in The Gambia. The national GHG inventory provides an overall picture of past total emissions. The mitigation action tracker provides information on progress made towards meeting the NDC/non-NDC commitments, including verifying the GHG reduction impact, policy successes or gaps, and actions taken towards GHG mitigation.

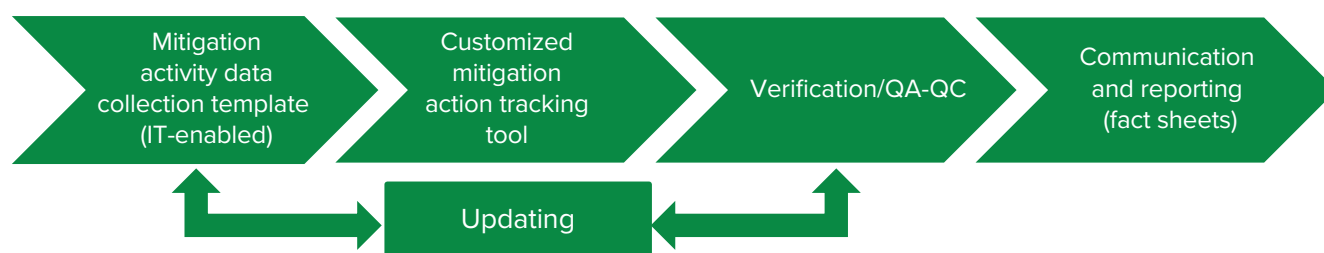
International accounting guidelines and reporting requirements on NDC mitigation actions have not yet been formulated under the PA. However, the agreement provides important information to national-level policy makers to track actions towards achieving the NDC commitments. The NDC mitigation action tracker demonstrates the progressive approach of The Gambia's integrated MRV tool and further strengthens The Gambia's commitment to achieving NDC targets.

The proposed mitigation action tracking module will focus on both project implementation and operations phases. The bottom-up approach has been proposed to develop a comprehensive and integrated system that incorporates The Gambia's unique requirements. However, this dynamic monitoring framework will be updated periodically, or when and as required. It is important to integrate existing national project monitoring processes with the new proposed tool to avoid duplication and maximize the use of resources.

The proposed NDC/mitigation action tracking module will allow for efficient integration and strengthening of the existing arrangement. Importantly, appropriate monitoring indicators and parameters (that is, raw data needs) will be identified and monitored at either the mitigation action or the subsector level.

The mitigation action tracking tool will follow a bottom-up approach and methodology similar to those adopted for the GHG inventory, as follows:

Figure 7. Mitigation action tracking module: Approach and methodology



The key steps in and illustration of climate change mitigation action tracking are presented below.

Step 1: Identify NDC mitigation action to be monitored: The mitigation actions (projects or programme) to be monitored, reported and communicated will be identified based on the NDC.

- NDC mitigation actions/projects; and,
- Other mitigation projects (non-NDC projects).

Step 2: Identify parameters/data to be monitored: The key monitoring parameters and key performance indicators (KPIs) for each mitigation action will be identified, including the field-level activity data monitoring sheets. The data sheets for data monitoring, collection and reporting will use the IT/web-enabled systems. The sheets include both quantitative and qualitative data, monitored periodically. They include:

- Financial parameters (total project cost, budget allocation, payments and balance);
- Technical parameters (type of solar panels, capacity and generation (import/export));
- Environmental parameters (GHG emission reductions, savings on diesel); and,
- Social parameters (number of jobs of employment generated, direct/indirect benefits).

Figure 8. Mitigation Action: Create project (Gambia iMRV tool)

The screenshot displays the 'GAMBIA'S CLIMATE ACTION IMPACT ASSESSMENT MRV TOOL' interface. On the left is a 'MENU' sidebar with options: GHG INVENTORY, NDC ACTIONS, MITIGATION ACTIONS, ADAPTATION ACTIONS, CLIMATE FINANCE, SDG ASSESSMENT, DATABASE, REPORTS, USER LIST, and MY APPROVALS. The main content area is titled 'NDC ACTION: GA-0121-02-1|ENVIRONMENT AND RESILIENCE DEVELOPMENT'. It contains a form with the following fields:

- Cause:** Climate Change (dropdown)
- Division:** Mitigation (dropdown)
- Sector:** Energy Generation (dropdown)
- Sub-Sector:** Renewable Energy (dropdown)
- Area:** Principle (dropdown)
- Project Title:** Environment and Resilience Development (text input)
- Implementing Agency:** Ministry of Environment Climate Change and (text input)
- Other Agency:** National Environment Agency (text input)
- Lifetime (years):** 25.0 (text input)
- Expected Effective Date:** 01-12-2020 (calendar icon)
- Approval Date:** 28-02-2021 (calendar icon)
- Financial Closure Date:** 31-03-2021 (calendar icon)
- Part of NAPA:** Yes (dropdown)
- Included in NDC:** Yes (dropdown)
- Project Location:** National (dropdown)
- Geo Coordinates:** 13.4544 N, 16.5753 W (text input)
- Project Cost (USD):** 10000.0 (text input)
- Source of Funding:** Broad source funding (dropdown)


Below the form is a 'Remarks' text area and a 'Submit' button.

Step 3: Store the monitored data in a central database/data hub: The central database/data hub (in the cloud) will store all activity-level operational monitored data and project-level data from the respective ministries, departments and implementation/operation agency.

Step 4: Analyse the data: The data collected in the database will be processed using the designed tool and per the specific communication and reporting requirements, such as renewable electricity generation and GHG emissions. These data can be used for multiple input/output as required for reporting.

Step 5: Perform verification and QA/QC: The designated agency or official will verify the data collected in the central database/data hub and analyse the output/outcome prior to finalization. The verification team may request revision of the data monitoring or updating of the data sheet if required. The detailed QA/QC procedure will be developed under the capacity building and training module.

Figure 9. Mitigation Action - Project information and monitoring (Gambia iMRV tool)


GAMBIA'S CLIMATE ACTION IMPACT ASSESSMENT MRV TOOL

Home

MITIGATION ACTION - MONITORING INFORMATION

Project
GA-0121-02-1|Sample - Solar PV plant in Gambia

Inventory Year
2020

Mitigation Sector

Energy Generation

Included in NDC

Yes

Implementing Agency

Ministry of Environment Climate Change and Natural Resources

Contact Details

Kairaba Avenue, Serekunda, The Gambia

Project Cost (USD)

10000.0

Approval Date

28-02-2021

Effectiveness Date

01-12-2020

Lifetime (years)

25.0

Project Contributions

Economic,Environmental

Project Beneficiaries

multiple

Expected Project Outputs

RE generation

Registered With Market Based Mechanism

N

Issuance of Carbon Benefits

no

Mitigation Sub-Sector

Renewable Energy

Project Location

National

Other Party

National Environment Agency

Contact Details

Serekunda, The Gambia

Source of Funding

Broad source funding

Financial Closure Date

31-03-2021

Actual GHG Savings (tCO₂e/ year)

2500.0

Target GHGs

CO2

Project Status

Planned

Gender Inclusiveness Assessment

Yes

Project Impacts

positive

Provide Weblink*

Verification Status (rounds)

PERFORMANCE INDICATORS

Indicator	Unit	Value	Data Source
Annual Onsite Diesel Consumption	litres	8000	
Annual electricity generation	MWh	3200	

Step 6: Communicate and report: The results of the analysis and the project fact sheet will be communicated to the respective ministries and departments on a monthly basis. However, the web-based portal will be updated on a half-yearly or annual basis. The project fact sheet will be ready to use and accessible to the stakeholders.

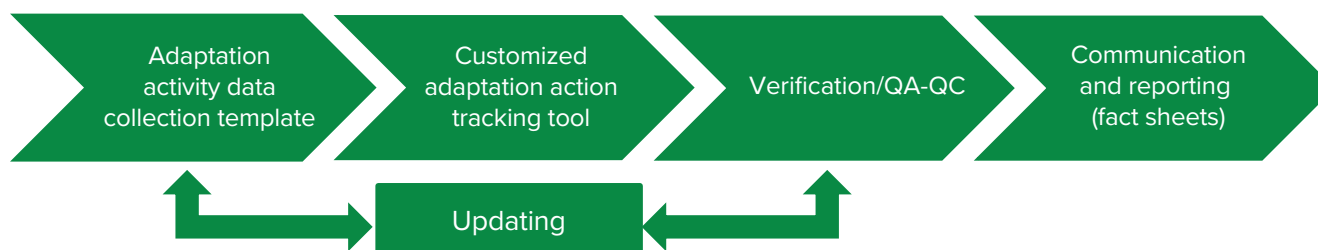
Figure 10. Mitigation Action – Mitigation report (Gambia iMRV tool)

Mitigation Report Table					
Filter: <input type="text" value="Type to filter..."/>			Show: 10	Copy	Excel
			CSV	PDF	
Project Id	Division	Sector	Implementing agency	Emission Reductions Achieved (tCO ₂ e)	Emission Reductions Expected (tCO ₂ e)
GA-0121-02-1 Sample - Solar PV plant in Gambia	Mitigation	Energy Generation	Ministry of Environment Climate Change and Natural Resources	2500.0	3200.0
Showing 1 to 1 of 1 entries					
Report Generated on (Thu May 20 12:36:05 UTC 2021)					

MODULE 3 – ADAPTATION ACTION TRACKING

The climate change adaptation action monitoring and tracking module will be designed in accordance with the UNDP CAIT. The adaptation action tracking tool will follow a bottom-up approach and methodology similar to those adopted for the GHG inventory and mitigation action tracking, as follows:

Figure 11. Adaptation action tracking module: Approach and methodology



The adaptation action monitoring and tracking tool will follow similar key steps as shown in the climate change mitigation action tracking section. However, while the mitigation action tracking will be based on quantitative information only, the adaptation module will include both qualitative and quantitative information.

Step 1: Identify the adaptation action to be monitored: The adaptation actions (projects or programme) to be monitored, reported and communicated will be identified based on the NDC/NAP.

- NDC adaptation actions/projects; and,
- Other adaptation projects (non-NDC projects).

Step 2: Identify parameters/data to be monitored: The key monitoring parameters and KPIs for adaptation actions will be identified, including the field-level activity data monitoring sheets. The data sheets for data monitoring, collection and reporting will use the IT/web-enabled systems. The sheets include both quantitative and qualitative data, monitored periodically. They include:

- Financial parameters (total project cost, budget allocation, payments and balance);
- Technical parameters (to be defined);
- Social parameters (number of jobs generated, direct/indirect benefits); and,
- gender-responsive parameters.



Step 3: Store the monitored data in a central database/datahub: The central database/data hub (in the cloud) will store all activity-level operational monitored data and project-level data from the respective ministries, departments and implementation/operation agency.




Step 4: Analyse the data: The data collected in the database will be processed using the designed tool and per the specific communication and reporting requirements, such as renewable electricity generation and GHG emissions. These data can be used for multiple input/output as required for reporting.

Step 5: Perform verification and QA/QC: The designated agency or official will verify the data collected in the central database/data hub and the output/outcome analysis prior to finalization. The verification team may request revision of the data monitoring or updating of the data sheet if required. The detailed QA/QC procedure will be developed under the capacity building and training module.

Step 6: Communicate and report: The results of the analysis and project fact sheet will be communicated to the respective ministries and departments on a monthly basis. However, the web-based portal will be updated on a half-yearly or annual basis. The project fact sheet will be ready to use and accessible to the stakeholders.

The table below presents an illustrative list of adaptation priority criteria and their respective qualitative and quantitative assessment indicators.

Adaptation Priority Area	Qualitative Assessment	Quantitative Assessment
Agriculture 	1. Does the action enhance crop productivity?	1. Number of farmers with crop insurance
		2. Number of farmers accessing agriculture input subsidies
		3. Number of institutions harvesting water
		4. Percentage of pre- and post-harvest losses
		5. Acreage under irrigation
	2. Does the action enhance productivity in the livestock sector?	1. Hectares of rangeland re-seeded
		2. Million cubic meters (MCM) of water storage in arid and semi-arid lands (ASALs)
		3. Numbers of farmers accessing livestock insurance
Forestry 	3. Does the action enhance productivity in the fisheries sector?	1. Number of cages for fish farming
		2. Number of fishponds
		3. Number of farmers using low-carbon recirculating aquaculture systems
	4. Does the action diversify livelihoods to adjust to a changing climate?	1. Number of households supported to diversify value chains
	1. Does the action promote afforestation and reforestation, including of degraded forest?	1. Hectares of land afforested or reforested
	2. Does the action promote implementation of initiatives to reduce deforestation and forest degradation?	1. Number of hectares of forest land protected
	3. Does the action restore degraded landscapes (ASALs and rangelands)?	1. Number of hectares of restored degraded landscapes
	4. Does the action promote sustainable timber production on privately-owned land?	1. Number of hectares of private sector-based plantations
	5. Does the action conserve land area for wildlife?	1. Percentage of terrestrial and inland water areas conserved
		2. Number of hectares of wildlife conservation areas
		3. Number of incidents of human-wildlife conflict
		4. Percentage of dispersal areas and migratory pathways secured

Adaptation Priority Area	Qualitative Assessment	Quantitative Assessment
Water 	1. Does the action lead to increased annual per capita water availability?	1. Per capita water availability 2. Number of dams 3. Number of sub-catchment management plans 4. Number of climate-proofed water harvesting, flood control and water storage infrastructure
	2. Does the action promote water efficiency?	1. Number of farm ponds 2. Number of hectares with access to water pans and ponds
	3. Does the action improve access to good quality water?	1. Percentage of people with access to good quality water
	4. Does the action improve climate resilience of coastal communities?	1. Number of deep/offshore fishing vessels 2. Hectares of mangroves restored/rehabilitated 3. Percentage of coastal and marine areas conserved
Energy 	1. Does the action increase renewable energy for electricity generation?	1. Additional generation capacity in MW of renewable electricity added to the grid
	2. Does the action promote the transition to clean cooking with alternative clean fuels in urban areas and clean biomass (charcoal and wood) cookstoves and alternatives in rural areas?	1. Number of households using LPG 2. Number of households with improved biomass cookstoves
	3. Does the action encourage low-carbon technologies in the aviation and maritime sectors?	1. Number of berths with shore power 2. Number of fuel-efficient aircraft purchased
	4. Does the action climate proof transport infrastructure?	1. Number of kilometres of roads that are climate proofed
	5. Does the action enhance energy efficiency?	1. Number of energy units saved 2. Number of companies participating in energy efficiency initiatives
	6. Does the action improve water use and resource efficiency?	1. Number of companies participating in water efficiency initiatives
	7. Does the action optimize manufacturing and production processes?	1. Number of companies participating in process optimization initiatives
	8. Does the action promote industrial symbiosis in industrial zones?	1. Number of industrial parks adopting industrial symbiosis practices
Health 	1. Does the action reduce Incidence of malaria and other vector-borne disease?	1. Malaria incidence per 1,000 population
	2. Does the action promote recycling to divert collected waste from disposal sites?	1. Percentage of waste diverted from disposal sites towards recycling practices
	3. Does the action control flooding in human settlements?	1. Number of floodways constructed in urban centres
	4. Does the action promote green buildings?	1. Number of green building codes developed and approved

**Adaptation
Priority Area**

Qualitative Assessment

Quantitative Assessment


Risk management 	1. Does the action increase the number of households and entities benefiting from devolved adaptive services, including National Safety Net Programme and County Climate Change Funds (CCCFs)?	1. Number of beneficiaries of social protection mechanisms (food and cash transfers)
		2. Number of households benefitting from Hunger Net Safety Programme
		3. Amount of funding allocated to climate change actions through CCCFs in Counties with climate fund regulations
	2. Does the action improve people's ability to cope with drought?	1. Number of climate information services recipients
		2. Number of drought early warning systems
	3. Does the action improve people's ability to cope with floods?	1. Number of flood early warning systems for

Figure 12. Adaptation action – Create project (Gambia iMRV tool)

NDC ACTION: GA-0111-03-2[SAMPLE - GAMBIA AGRICULTURE PROGRAM]

Cause <input type="text" value="Climate Change"/>	Division <input type="text" value="Adaptation"/>
Sector <input type="text" value="Agriculture, Food and Nutrition Sec..."/>	Sub-Sector <input type="text" value="Crops"/>
Area <input type="text" value="Principle"/>	Project Title <input type="text" value="Sample - Gambia Agriculture Program"/>
Implementing Agency <input type="text" value="Ministry of Environment Climate Change and"/>	Other Agency <input type="text" value="National Environment Agency"/>
Lifetime (years) <input type="text" value="10.0"/>	Expected Effective Date <input type="text" value="01-01-2021"/>
Approval Date <input type="text" value="01-03-2021"/>	Financial Closure Date <input type="text" value="15-12-2020"/>
Part of NAPA <input type="text" value="Yes"/>	Included in NDC <input type="text" value="Yes"/>
Project Location <input type="text" value="District"/>	Geo Coordinates <input type="text" value="30.20.15 N 09.35.47 W"/>
Project Cost (USD) <input type="text" value="25000.0"/>	Source of Funding <input type="text" value="GoV, Grant or Loan"/>

Figure 13. Adaptation action – Report (Gambia iMRV tool)

Adaptation Action Report

Filter:

Show: 10

Copy

Excel

CSV

PDF

Project Id	Division	Sector	Implementing agency	Impact Summaries
GA-0111-03-2 Sample - Gambia Agriculture Program	Adaptation	Agriculture, Food and Nutrition Security	Ministry of Environment Climate Change and Natural Resources	Agriculture

Showing 1 to 1 of 1 entries

1

Report Generated on (Thu May 20 12:41:15 UTC 2021)

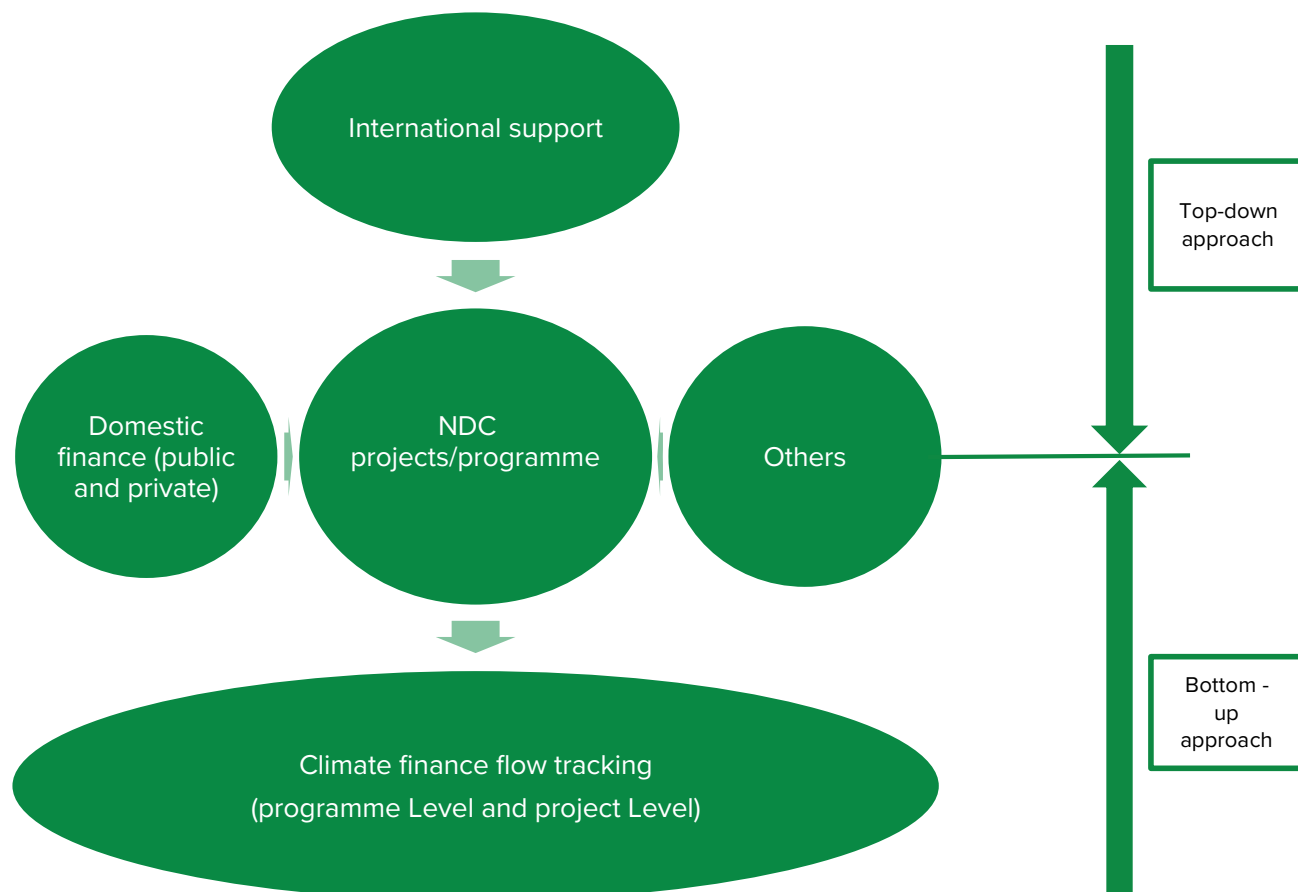
MODULE 4 – CLIMATE FINANCE FLOW TRACKING

Developing country Parties should provide information on financial, technology transfer and capacity-building support needed and received (PA - Article 9, 10 and 11). Finance is primarily covered by Article 9 of the Paris Agreement, which re-establishes the precedent that developed countries should take the lead on mobilizing finance (Article 9.3). Developed countries will communicate biennially with details on the finance pledged and provided (Articles 9.5 and 9.7). Developing countries may also contribute to finance, but this is voluntary (Article 9.2). The provision of financial resources should aim to achieve a balance between adaptation and mitigation (Article 9.4). Note that Article 6 of the Paris Agreement covers the use of market mechanisms, which may also provide a source of finance for mitigation and adaptation actions.

The PA agreement assigns appropriate importance to international and domestic financial flows for climate change mitigation and adaptation. Further, the transparency framework under the PA highlights the key requirement, although the details of monitoring and reporting, common modalities and procedures, and detailed guidelines have not been finalized. However, the proposed integrated MRV tool considers tracking international financial and technology support (provision, received and impact of support) as a way to develop a monitoring system and implement GHG mitigation actions, training and capacity building.

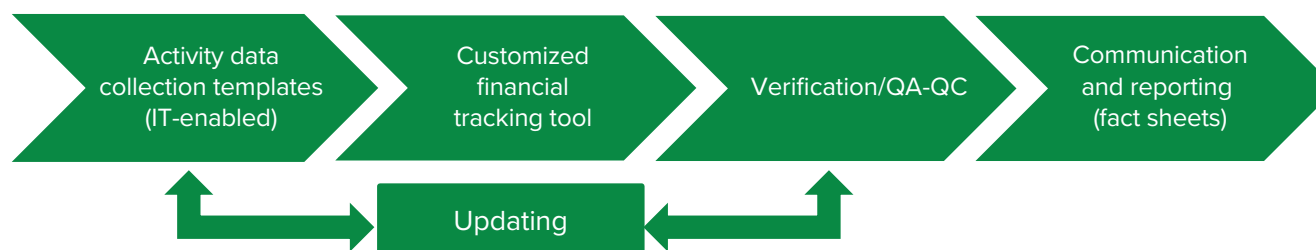
The design of the climate finance flow tracking tool is expected to include top-down and bottom-up approaches. This includes international and domestic financial flows for implementing NDC commitments, achieving climate change, and monitoring, reporting and communicating the interlinked SDGs. The figure below presents the climate financial flow approaches:

Figure 14. Climate financial flow approach



The climate financial flow tracking will follow the same workflow as discussed above. However, the major difference is that programme-level data is considered to be equally important as activity-level data.

Figure 15. Climate finance tracking module: Approach and methodology



The climate finance flow monitoring and tracking tool will follow the same key steps as those illustrated in the climate change mitigation action tracking section.

The key steps in and illustration of climate finance tracking are presented below:

Step 1: Identify NDC projects and programme and level of reporting requirements: The financial requirements and financial support available will be mapped in accordance with the NDC objectives, sectors/subsectors, priority and output/outcomes.

- Climate action (adaptation/mitigation); and,
- Possible sources of financial support (international, domestic-public and private).

Step 2: Identify parameters/data to be monitored: The key financial monitoring parameters and KPIs for each project and programme will be identified, including the field-level activity data monitoring indicators. The data monitoring, collection and reporting (data sheets) will be stored in an online database. The parameters and indicators selected for climate finance flow module are based on the GCF financial monitoring and proposal preparation tool. The monitoring and tracking tool includes:

- Total project cost;
- Possible sources of grants, loans, equity/debt components for project implementation;
- Domestic (public and private) investment available/possible;
- Budget allocation with contingencies and associated financial risks;
- Disbursement plan (milestone or time-based); and,
- Payments and balance of payments.

Step 3: Store the monitored data in a central database/data hub: The central database/data hub will store the activity-level operational monitored data and project-level data from the respective ministries, departments and implementation/operation agency.

- Measurement of the amount mobilized;
- Face value of instrument guaranteed vs. total project;
- Operational and maintenance cost; and,
- Variable cost.

Step 4: Analyse the data: The data collected in the central database/data hub will be processed using the designed tool and per the specific communication and reporting requirements, such as total budget allocation, domestic component, international component and loans.

- Equity/debt;
- Total project cost; and,
- Financial assistance requirements

Step 5: Perform verification and QA/QC: The designated agency or official will verify the data collected in the central database/data hub and analyse the output/outcome prior to finalization. The verification team may request revision of the data monitoring or updating of the data sheet if required.

Step 6: Communicate and report: The result of the analysis and project fact sheet will be communicated to the respective ministries and departments on a monthly basis. However, the web-based portal will be updated on a half-yearly or annual basis. The project fact sheet will be ready to use and accessible to the stakeholders.

Figure 16. Climate Finance – Report (Gambia iMRV tool)

Climate Finance Report

Filter:

Show: 10

Copy

Excel

CSV

PDF

Project Id	Division	Sector	Implementing agency	Budget Spent (USD)	Expected Budget Spend(USD)
GA-0111-03-2 Sample - Gambia Agriculture Program	Adaptation	Agriculture, Food and Nutrition Security	Ministry of Environment Climate Change and Natural Resources	2190.0	5000.0
GA-0121-02-1 Sample - Solar PV plant in Gambia	Mitigation	Energy Generation	Ministry of Environment Climate Change and Natural Resources	1600.0	2400.0

Showing 1 to 2 of 2 entries

1

MODULE 5 – SDGS TRACKING

As discussed earlier, the SDGs are important in terms of measuring the social impact of climate action (mitigation and adaptation activities). The integrated MRV tool will thus also be used to monitor the impact of climate actions on selected SDGs.

In the absence of any standard accounting tools for the SDGs, including monitoring and progress tracking tools, the existing available SDG tracking tools were evaluated for climate action and suitable SDG monitoring and reporting. The SDG tracking tool proposed here is based on the UNDP SDG monitoring tool. As envisioned for the integrated MRV tool, the SDG module also adopts the bottom-up and top-down approaches, as discussed in the mitigation action and GHG inventory sections.

The SDG module is based on the SDG tool developed using the UNDP CAIT. However, it will be customized to meet the specific requirements of The Gambia, given the local context and capacity/resources available. The SDG module provides guidance for MRV and data collection. The aim is to align the efforts to national reporting requirements to the UNFCCC for NDCs and to track progress towards the SDGs. The module helps to manage the design, development, implementation, financing, measurement, reporting and verification of the types of actions. This will make it possible to identify significant impacts, define indicators, quantify impacts, set targets and track the progress of the actions towards the NDCs. The tool uses a bottom-up approach that can be applied to track ‘significant, direct impacts’ of actions.

The key steps in and illustration of SDG tracking are as follows:

Step 1: Identify NDC projects and programme: The NDC roadmap defines the programme and projects to be implemented in The Gambia. The SDG monitoring and reporting requirements are considered at project level and summarized at project level.

- Possible SDGs benefits and level of benefits (qualitative and quantitative).

Step 2: Identify parameters/data to be monitored: The SDG parameters and KPIs for each project will be defined, including the field-level activity micro- and macro-data in the monitoring sheets. The data monitoring, collection and reporting (data sheets) will use the IT/web-enabled systems (to be decided by the respective government ministry and department as this may include sensitive information that is not to be disclosed);

Step 3: Store the monitored data in a central database/data hub: The central database/data hub will store the activity-level operational monitored data and project-level data from the respective ministries, departments and implementation/operation agency.

Step 4: Analyse the data: The SDG data collected at the central database/data hub will be processed using the UNDP SDG tool and per the specific requirements for communication and reporting, such as total employment generated, access to energy and water.

Step 5: Verification and QA/QC: The designated agency or official will verify the data collected at the central database/data and analyse the output/outcome prior to finalization. The verification team may request revision of the data monitoring or updating of the data sheet if required.

Step 6: Communicate and report: The result of the analysis and project fact sheet will be communicated annually to the respective ministries and department.

SDG module of the integrated MRV tool will help to monitor, track and report on the following 17 SDGs (as applicable to individual project context). Further, the SDG impact assessment will address both qualitative and quantitative dimensions.

Please refer to Annexure II for an illustration of the SDG module.

Mapping the NDC implementation modules to the SDGs

SDG	Governance	Mitigation	Adaptation	Finance	MRV
1. No poverty – end poverty in all its forms everywhere	✓		✓	✓	
2. Zero hunger – end hunger, achieve food security and improved nutrition and promote sustainable agriculture		✓	✓		
3. Good health and well-being – ensure healthy lives and promote well-being for all at all ages		✓	✓		
4. Quality education – ensure inclusive and equitable quality education and promote lifelong learning opportunities for all					
5. Gender equality – achieve gender equality and empower all women and girls	✓	✓	✓		
6. Clean water and sanitation – ensure availability and sustainable management of water and sanitation for all		✓	✓		
7. Affordable and clean energy – ensure access to affordable, reliable, sustainable and modern energy for all		✓	✓		
8. Decent work and economic growth – promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	✓	✓	✓	✓	✓
9. Industry, innovation and infrastructure – build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		✓	✓	✓	
10. Reduced inequities – reduce inequality within and among countries	✓			✓	
11. Sustainable cities and communities – make cities and human settlements inclusive, safe, resilient and sustainable	✓	✓	✓	✓	✓
12. Responsible consumption and production – ensure sustainable consumption and production patterns		✓			
13. Climate action – take urgent action to combat climate change and its impacts	✓	✓	✓	✓	✓
14. Life below water – conserve and sustainably use the oceans, seas and marine resources for sustainable development		✓	✓		
15. Life on land – protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and reverse land degradation and halt biodiversity loss		✓	✓		
16. Peace, justice and strong institutions – promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	✓				✓
17. Partnerships for the goals – strengthen the means of implementation and revitalize the global partnership for sustainable development	✓			✓	✓

Figure 17. SDG Tracking – Report (Gambia iMRV tool)

SDG Action Report					
Filter: <input type="text" value="Type to filter..."/>			Show: 10	Copy	Excel
				CSV	PDF
Project Id	Division	Sector	Implementing agency	Stakeholder Consultation	Impact Summaries
GA-0111-03-2 Sample - Gambia Agriculture Program	Adaptation	Agriculture, Food and Nutrition Security	Ministry of Environment Climate Change and Natural Resources	Yes	
GA-0121-02-1 Sample - Solar PV plant in Gambia	Mitigation	Energy Generation	Ministry of Environment Climate Change and Natural Resources	Yes	
Showing 1 to 2 of 2 entries					
Report Generated on (Wed May 19 17:55:36 UTC 2021)					

INTEGRATED MRV TOOL - INSTITUTIONAL STRUCTURE

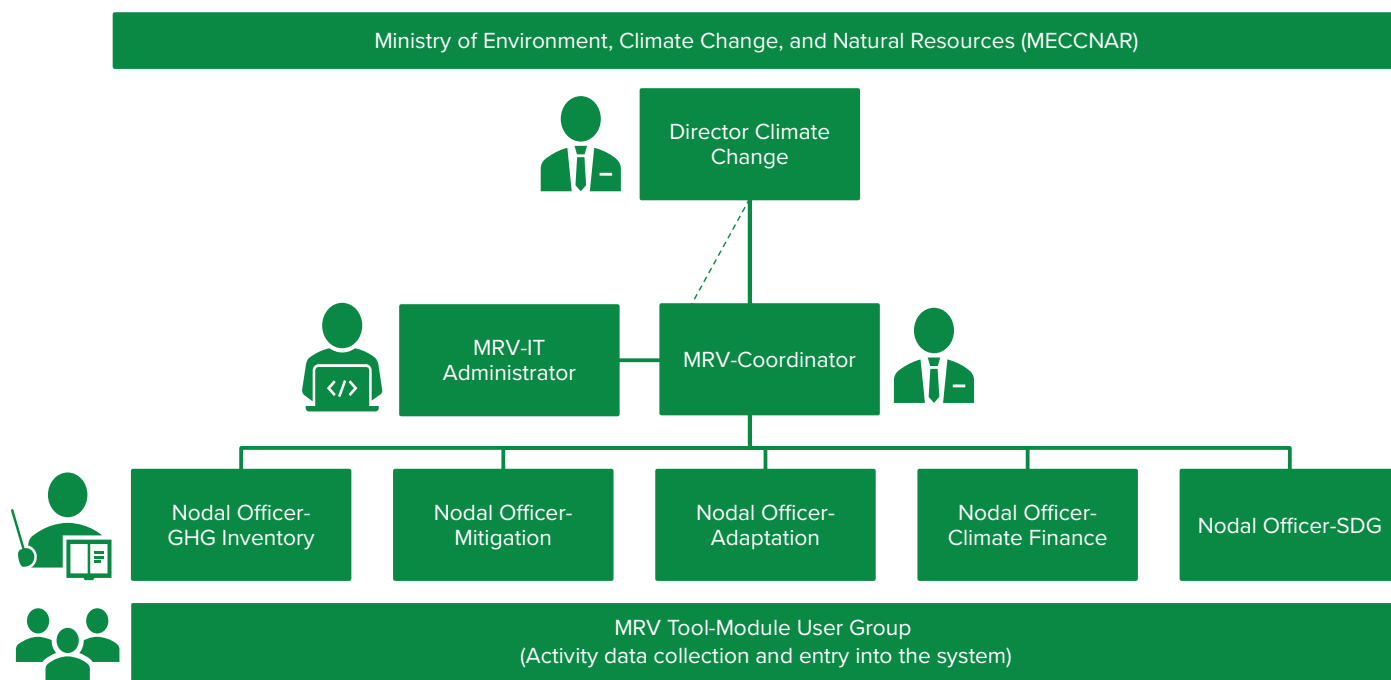
The Gambia's integrated MRV tool will be a web-based MRV tool, deployed on a cloud server (for example, AWS, AZURE or Google Cloud). It will be designed to address domestic and international reporting requirements on climate actions. The tool is robust and is more accessible to different user groups.

User registration: Each user registers with the MRV administration system. Registration will be a simple web-based process: the user completes the registration form, providing personal details, roles and level of access required. The form is then submitted to the relevant authority for approval.

The MRV-IT Administrator approves the user's registration. After approval, users can access the integrated MRV tool using an internet connection on any device (work computer, home computer, laptop or tablet) and any web browser to enter their login credentials.

Users will include members of the MRV team (or any other relevant team(s) assigned by the Climate Change Directorate (CCD) to prepare national GHG inventories, NDC actions/mitigation/adaptation monitoring, climate finance/support monitoring and SDG tracking).

The figure below presents the proposed structure of the user groups.



Key officials' roles and responsibilities are as follows:

Director, Climate Change Department: The CCD Director will lead the entire MRV system. The Director will update the Cabinet Secretary and the National Climate Change Council on implementation and progress of the MRV system.

MRV Coordinator: The Coordinator will have overall responsibility for the integrated MRV tool and MRV reports. S/he will review the MRV system and MRV reports periodically (quarterly half-yearly or at least annually). The Coordinator will also be responsible for support and capacity building.

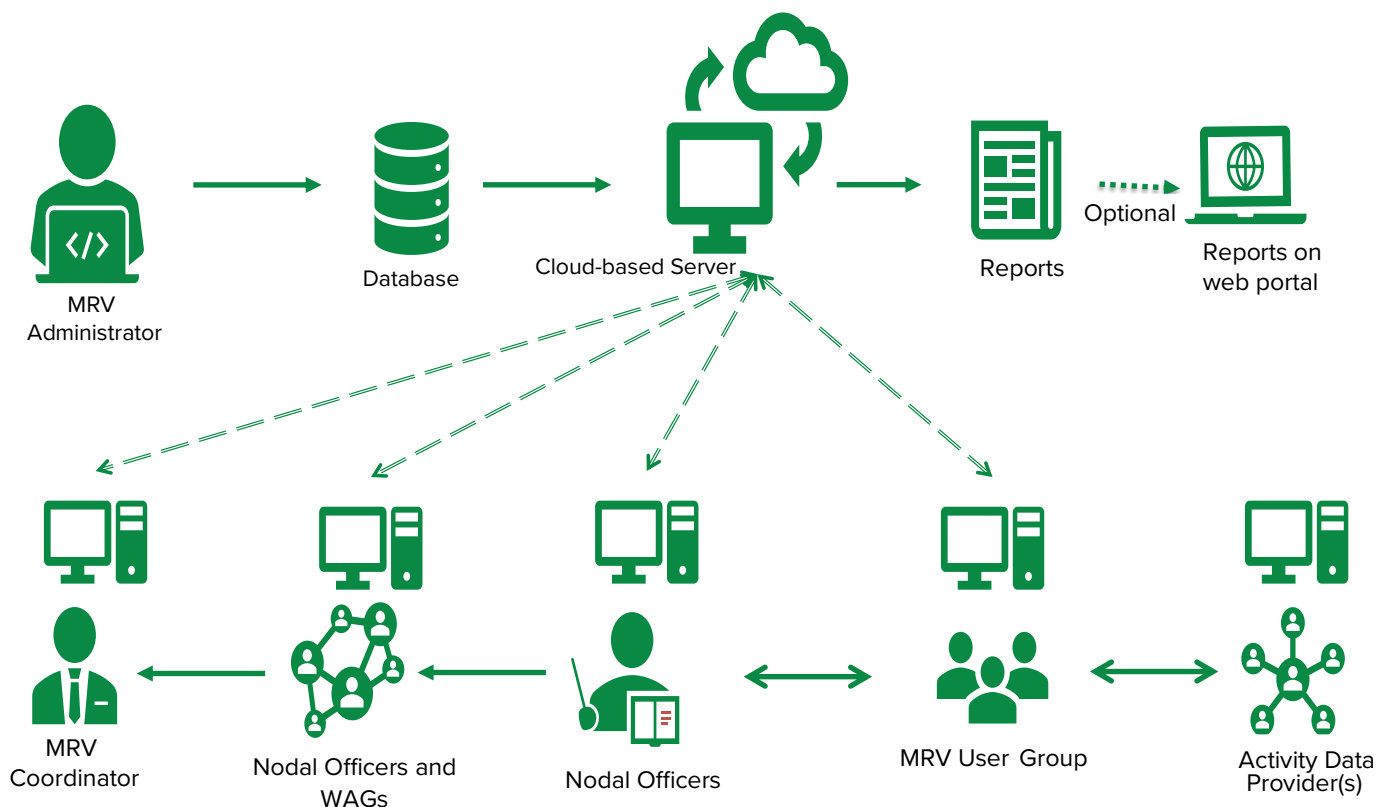
MRV Administrator: The Administrator will have overall responsibility to implement the integrated MRV tool and its functions. S/he will be a Master User with all privileges and rights, will approve/edit/delete user registration and access and approve/edit emission factors and the database based on the recommendation of the MRV Coordinator or Nodal Officer.

Nodal Officers: Nodal Officers will have the right to validate and verify the activity data entered. Each module will have at least one Nodal Officer designated by the MRV Coordinator. (Best practice is to have more than one nodal officer for each module.)

MRV Module and Sector User Group: The Group will have the right to enter/edit data in the respective sector(s). The MRV Administrator will grant these rights to the Module or Sector User upon recommendation of their Nodal Officer or MRV Coordinator.

Each user will be assigned a role and an access rights level. An individual's role may not necessarily be identical to his/her title (for example, National Focal Point) and a person may take on several roles. Each module may have single or multiple users. However, best practice calls for limiting the tool's users to avoid duplication/inconsistency.

Operational Overview of Integrated MRV Tool



Climate Promise

United Nations Development Programme (UNDP)
www.undp.org

@UNDPClimate

