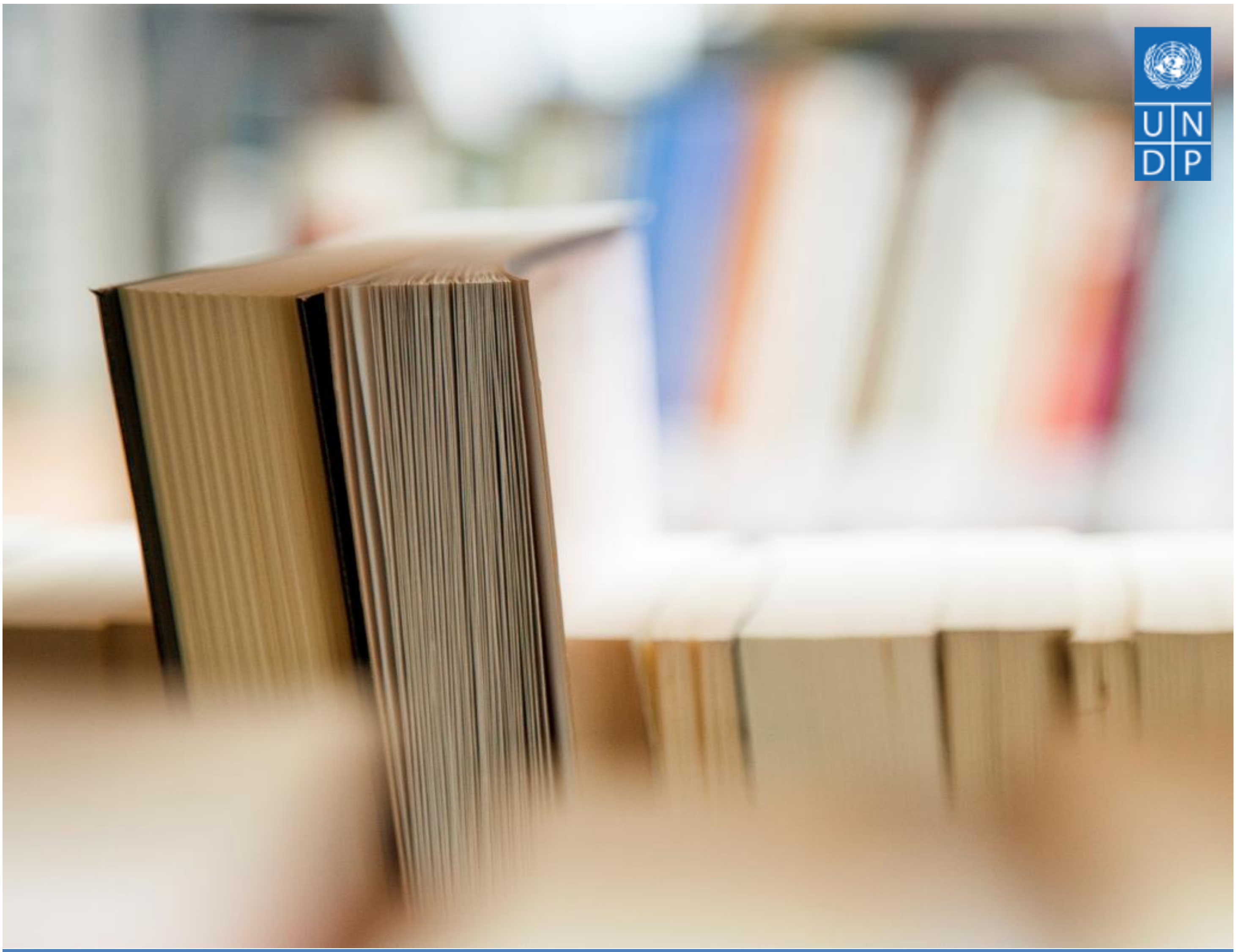


Kenya's Integrated Monitoring, Reporting and Verification (MRV) Tool

User Manual

Version 1.0

May-2022

IN CONTRIBUTION TO THE NDC PARTNERSHIP
ACCELERATING CLIMATE AND DEVELOPMENT ACTION

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
based on a decision of the German Bundestag

aecid
Spanish Agency for International Developement Cooperation

Federal Ministry for Economic Cooperation and Development

Kenya's Integrated Monitoring, Reporting and Verification (MRV) Tool

(Version 1.0)

User Manual

Version 1.0,

May 2022

Compiled By:

Subbarao Consulting Services (SCS) Ltd.

Value based, innovative & sustainable solutions

Subbarao Consulting Services (SCS) Ltd.

229 Highcliff Road, Shiel Hill, Dunedin 9013, New Zealand

Tel: +64 3 4544775; Mobile: +64 211638635

E-Mail: srikanth@subbaraoconsulting.com

Dear User,

Welcome to Integrated Monitoring, Reporting and Verification (iMRV)Tool. You are now part of a national Greenhouse Gas Inventory and Climate Actions (mitigation/adaptation) monitoring, reporting and verification system.

An integrated monitoring reporting and verification (iMRV) tool is key to achieving long term national and international climate change objectives and sustainable development. We strongly value your contribution and are committed to make your engagement with the iMRV Tool ecosystem a smooth experience.

For a newly registered user, a lot of effort goes to understand the requirements of the domestic and international climate actions MRV acts, polices, guidelines and ensure compliance. As a measure to facilitate users and make their climate actions MRV journey smooth, the newly registered users are being provided with this iMRV Tool user manual.

The User Manual is a brief document which aims to communicate with you in simple terms, without the technical jargons. The idea is to make new user and stakeholders understand the intent, benefits and processes of MRV in a lucid and effective manner.

We strongly recommend that you go through this document carefully to understand and appreciate the processes involved in MRV Tool and MRV compliance, the do's and don'ts while using MRV Tool and good practices that would make your MRV journey smooth and easy.

Please be informed that the user manual is by no means an exhaustive document. It is only an effort to compile the most relevant information with respect to MRV requirements/compliances and help at a single place.

For more detailed and elaborate information on MRV, please refer to the national and international MRV acts, policies, rules, notifications, circulars, and advisories issued by the Government and UNFCCC.

We welcome your feedback and suggestions to improve this document so that users in the future may get benefited by the updated version of this document. We will update the user manual on your valuable feedback and suggestions.

All the Best

About the User Manual

This Integrated Monitoring, Reporting and Verification Tool (MRV- Tool) user manual familiarizes you with the various features and functionalities of the application in a systematic and step-wise manner.

OBJECTIVES

The main objectives of this document are:

- To introduce user(s) to key functionality of the iMRV Tool
- To introduce you to the various modules of iMRV Tool
- To familiarize you with the various conventions used in the MRV Tool.
- To function as a reference manual and user guide to all the functionalities and features of the MRV Tool
- to help you performing various setups and steps by taking you through the relevant screens methodically

NON-OBJECTIVES

This user manual does not aim to

- Discuss domestic and international climate change related reporting requirements and concepts
- Discuss and explain GHG Inventory and IPCC-2006 Guidelines, Climate Finance, SDG concepts
- Act as a technical document

Contents

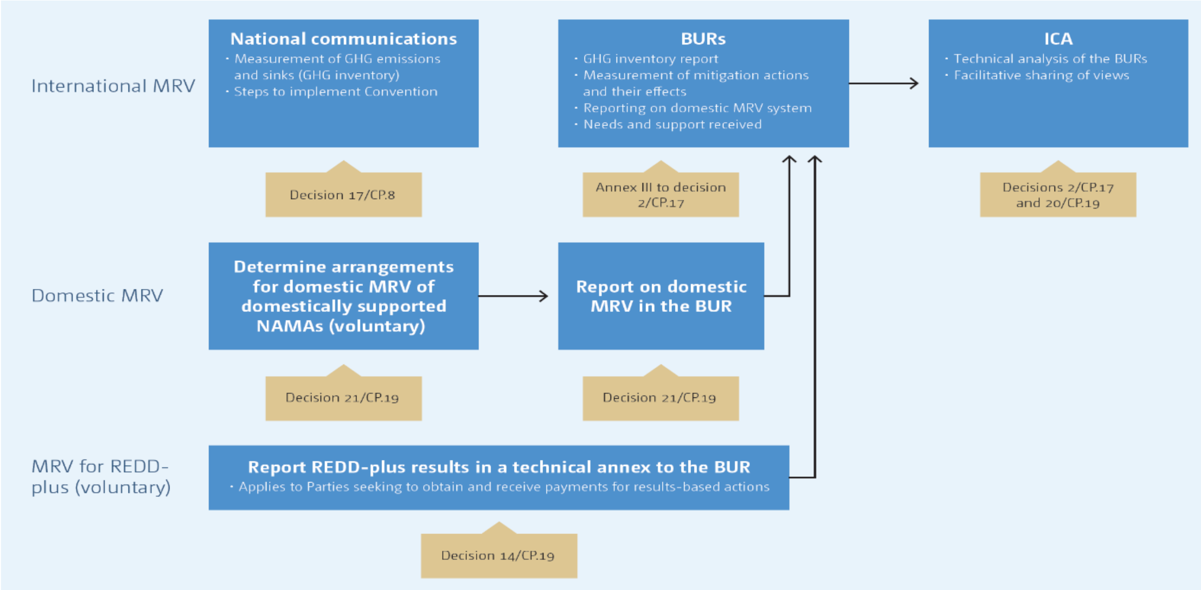
1. Background and Purpose

A robust Monitoring (Measuring), Reporting and Verification (MRV) system is important for national policy decisions and is a key requirement under United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement (PA). Kenya is expected to participate in existing MRV arrangements of the UNFCCC including preparation and submission of National GHG inventory reports, National Communications and Biennial Update Reports (BUR) as well international consultation and analysis processes.

FIGURE 1.1: KEY MILESTONES IN THE DEVELOPMENT OF THE MRV FRAMEWORK FOR DEVELOPING COUNTRY PARTIES

1992/1994	The Convention establishes reporting obligations for all Parties and timelines for the initial national communications from developing country Parties (Article 12, paragraph 5, and Article 4, paragraph 3)
1996	The guidelines for the preparation of national communications from developing country Parties: scope, structure and content (decision 10/CP.2)
1997	The first reporting under the Convention by developing country Parties through the initial round of national communications
1999	The Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) is established to assist countries in their reporting obligations
2002	COP 8 adopted the revised guidelines for the preparation of national communications (decision 17/CP.8) and extended the term of the CGE for the period 2003-2007 with a broader mandate for technical assistance (decision 3/CP.8)
2007	COP 13 agreed to the principle of applying measurement, reporting and verification (MRV) to developing country Parties in the context of undertaking enhanced national/international action on mitigation of climate change (decision 1/CP.13)
2009	CGE is reconstituted for the period 2010-2012 to continue providing technical support and enhancing the capacity of developing country Parties to prepare their national communications
2010	COP 16 defined the frequency of the national communications every four years, and introduced additional elements of MRV (decision 1/CP.16): enhanced reporting in national communications, including inventories, on mitigation actions and their effects, and support received; biennial update reports (BURs) every two years; international consultation and analysis (ICA) of BURs; and domestic MRV of domestically supported mitigation actions
2011	COP 17 adopted the guidelines for the preparation of BURs and the guidelines and modalities for ICA: the first BUR to be submitted by December 2014, consistent with the capabilities and the level of support provided for reporting; least developed country Parties and small island developing States may submit this report at their discretion; the first BUR is to cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of submission; ICA will commence within six months of the submission of the first round of BURs; ICA will include a two-part technical analysis and facilitative sharing of views
2013	COP 19 adopted several decisions on the elements of the MRV framework: composition, modalities and procedures for the team of technical experts under ICA (decision 19/CP.19); general guidelines for domestic MRV (decision 21/CP.19); seven decisions of the Warsaw Framework for REDD-plus; and the term of the CGE continued for the period 2014-2018 with a broader mandate

FIGURE 1.2: KEY ELEMENTS OF THE MRV FRAMEWORK



Further, under the Paris Agreement (PA) commitments, Kenya will be subjected to participate in the enhanced transparency framework (ETF), which builds on the existing arrangements and shall require to communicate the National GHG Inventory, National Communications, Biennial transparency reports (BTR), Progress on NDC Implementation, Adaptation Communications and Reporting on Support (Provided/Received). Article 13 of the PA provides the core structure of the ETF, which includes reporting, the technical expert review (TER) and a facilitative, multilateral consideration of progress. The ETF will be implemented based on the Modalities, Procedures and Guidelines for the transparency framework for action and Support (MPGs) that apply to all Parties, with flexibility to those developing countries that need it in the light of their capacities.

FIGURE 1.3: ENHANCED TRANSPARENCY FRAMEWORK (ETF) FOR ACTION AND SUPPORT ESTABLISHED BY ARTICLE 13 OF THE PA

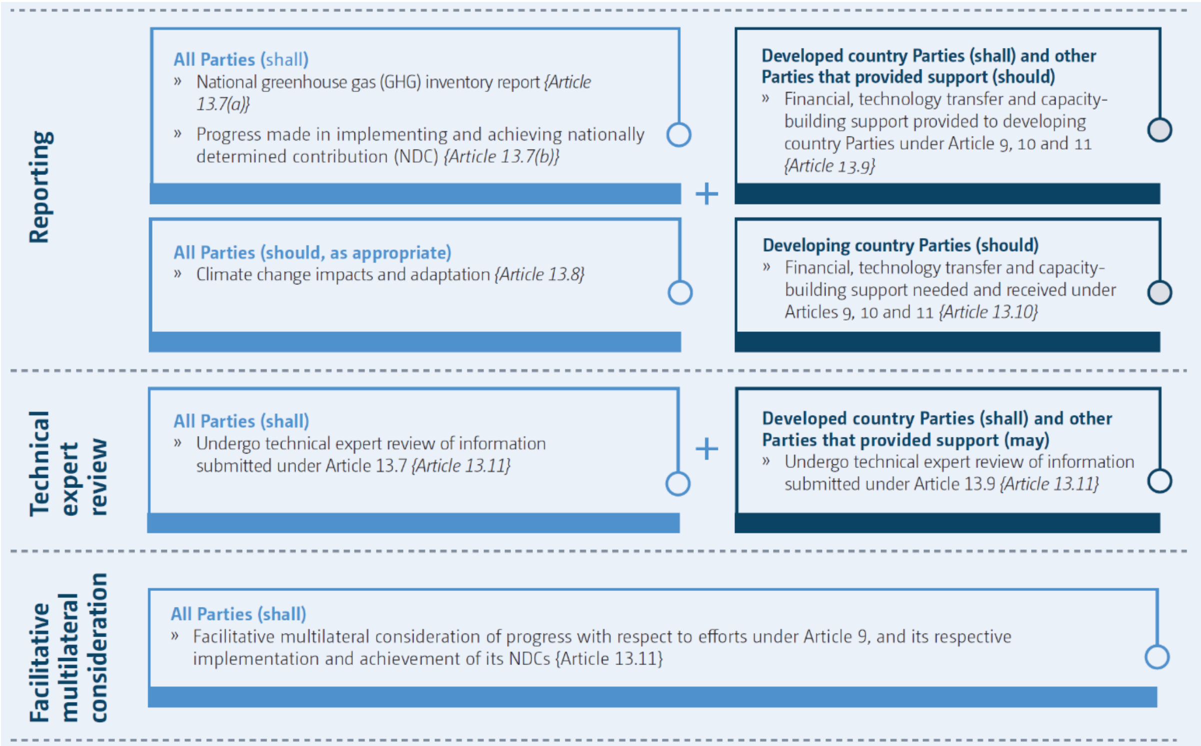
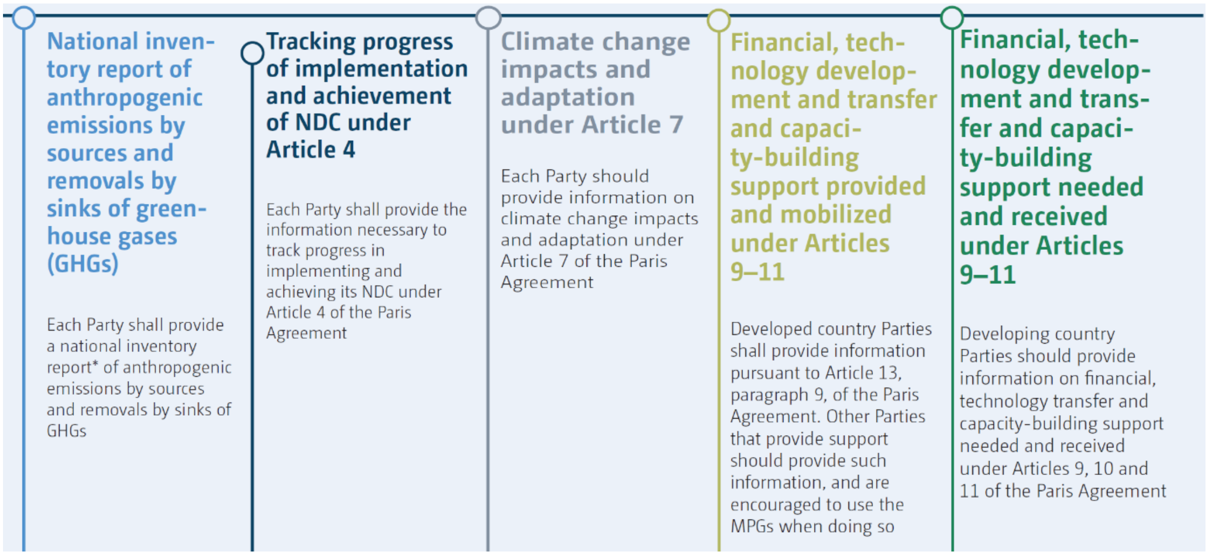


FIGURE 1.4: INFORMATION TO BE REPORTED IN THE BIENNIAL TRANSPARENCY REPORT (BTR)



The Integrated Monitoring, Reporting and Verification (iMRV) Tool aims to assist the Climate Change Division and other line ministries/departments to develop a concise and strategic domestic/national MRV system. It is envisaged that the iMRV tool would assist in enhancing monitoring, tracking, reporting and verifying of climate actions including national GHG emissions, climate change mitigation action, adaptation actions, climate finance and sustainable development goals (SDG) impact of climate change projects, program and policies.

This is expected to assist in leveraging international, regional and domestic public and private climate finance flows. The integrated MRV Tool will be robust but built upon available resources e.g., data, human resources, capacity etc. and existing systems of monitoring and reporting (data collection and analysis) with minimal additional burden to the reporting agency and relevant stakeholders.

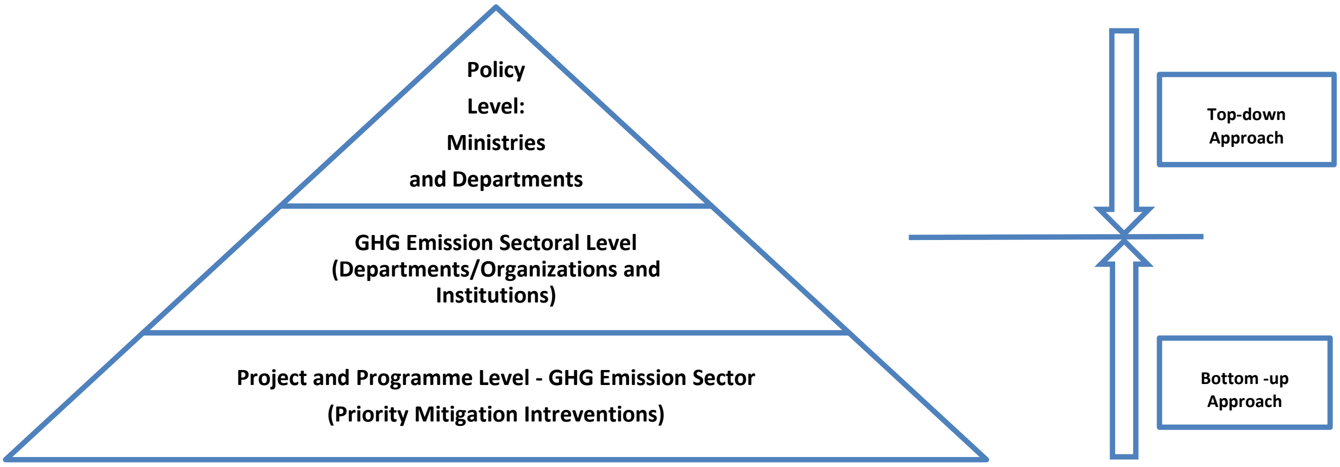
The iMRV Tool has been developed was finalized during the extensive multiple stakeholder consultation process, however this is a living tool and further improved over the period. Hence some of the features/requirements are kept for future development and implementation. The present version of integrated MRV Tool covers following key elements:

- National GHG Inventory (limited to key sector and sub-sectors)
- Monitoring and Tracking: Climate Change Mitigation Actions/Projects and GHG emission reductions
- Monitoring and Tracking: Climate Change Adaption Actions/Projects and Impacts.
- Monitoring and Tracking: Climate Finance Flow towards Climate Actions.
- Monitoring and Tracking: SDG impact of climate actions.

FIGURE 1.5: INTEGRATED MRV TOOL DESIGN PRINCIPLE

The iMRV Tool design approach was to transparently demonstrate progress made towards the targets defined in the national policies and frameworks such as Climate Change Action Plan (CCAP), Nationally Determined Contributions (NDC) etc. Besides measuring ex-post emissions baseline and mitigation actions, the national MRV system also aimed to track the progress of implementation in terms of other impacts (e.g., policies, co-benefits, achieving SDGs), plus results of means of implementation (e.g., tracking of climate finance flows, technology transfer, capacity building).

FIGURE 1.6: TOP-DOWN, BOTTOM-UP APPROACH FOR MRV FRAMEWORK DESIGN



Kenya's integrated MRV Tool is an Information and communications technology (ICT) based Digital MRV system specifically considering the specific requirements of Kenya and finalized post extensive desktop review of documents, stakeholder consultation and discussion with Climate Change Division. However, the iMRV tool shall be improvised over period of time and shall incorporate future decisions.

TABLE 1.1: ELEMENTS OF INTEGRATED MRV TOOL

Key Elements of Integrated MRV Tool				
Module 1: National GHG Inventory	**Module 2: Mitigation Actions**	**Module 3: Adaptation Actions**	**Module 4: Climate Finance Flow**	**Module 5: Sustainable Development Goals (SDGs)**
-GHG emission sectors - Monitoring and data collection - GHG emission calculation - Analysis and reporting - Results and communication	- NDC implementation roadmap - Priority mitigation actions - Tracking mitigation actions - Monitoring and reporting - Results and communication	- NDC implementation roadmap - Priority Adaptation actions - Tracking NDC adaptation actions - Monitoring and reporting - Results and communication	- Climate finance for NDC implementation actions - Finance & resources deployment schedule - Monitoring and reporting - Results and communication	- SDGs mapping and Monitoring for NDC actions based on UNDP CAIT - Data for SDGs impact monitoring - Review and analysis - SDGs Impact Reporting

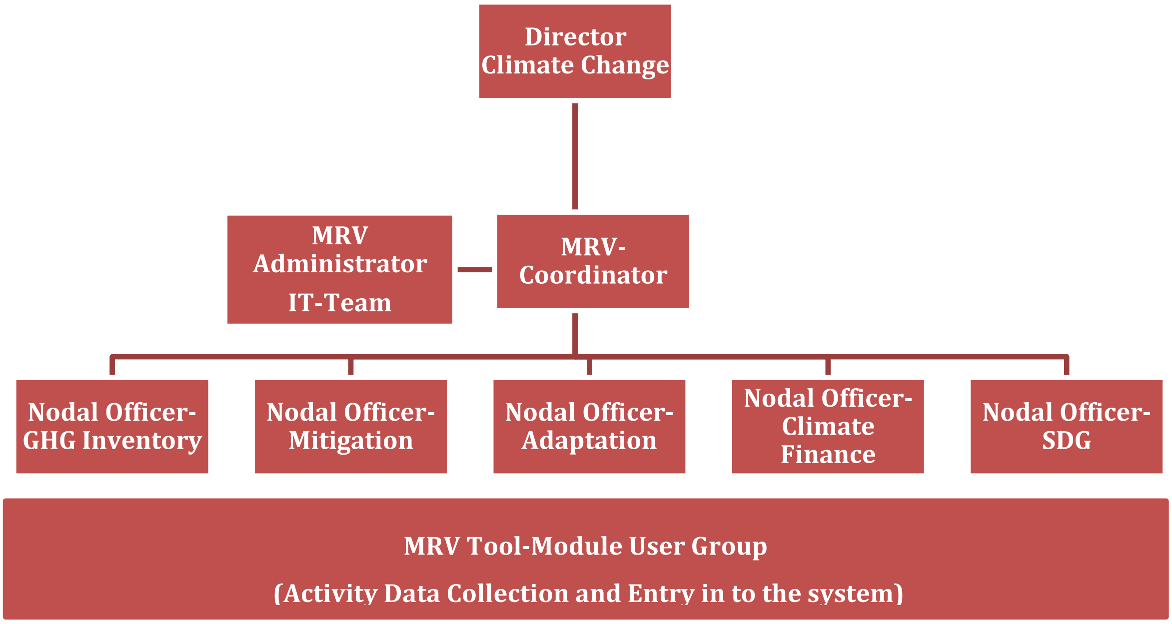
1.1 iMRV Tool Operational Structure

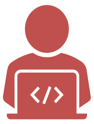
Kenya's integrated MRV tool is a web-based digital integrated MRV Tool for climate actions (deployed on cloud server – AWS, please contact IT administrator for more information) designed specifically considering the domestic and international reporting requirements on climate actions. The web-based online digital iMRV tool provides robustness and increases the accessibility of the MRV tool to the different user groups.

The roles and responsibility of key MRV personal are briefly discussed here:

- The users of MRV tool shall enter the data in the MRV Module i.e. GHG Inventory, Create/ Edit Project, Mitigation Actions, Adaptation Actions, Climate Finance and SDG Module.
- The designated Nodal Officer shall approve/reject each entry in to the MRV system (all modules)
- Administrator shall have access and control on overall functionality of the iMRV Tool

FIGURE 1.7: OVERARCHING OPERATIONAL STRUCTURE FOR INTEGRATED MRV SYSTEM



	**MRV Coordinator**: Shall have overall responsibility of iMRV Tool and MRV Reports.	MRV Coordinator shall review the MRV System and MRV reports on periodic basis (quarterly, half yearly) or at least once in a year; shall also responsible for backstopping and capacity building.
	**MRV Administrator**: Shall have overall responsibility of iMRV Tool implementation and functions.	MRV Administrator will be a Master User with all privileges and rights; shall also Approve, edit and delete user registration and access, approve/edit emission factors, database etc. on recommendation of MRV Coordinator or Nodal Officer.
	**Nodal Officers:** Shall have the right to Validate and Verity the entered activity data.	Each Module shall have at least one Nodal Officer; designated by the MRV Coordinator. Nodal officer shall validate and verify the activity data entered in the iMRV tool i.e. approve or reject.
	**MRV Module and Sector User Group**: Will have the right to enter/edit data in respective sector(s).	Module or Sector User will be provided these rights by the MRV Administrator on recommendation of their Nodal Officer or MRV Coordinator.

2. User Management Module

Getting started with the MRV Tool

The following sections describe the steps necessary to initialize the Integrated MRV Tool and the database. Following these steps, the MRV Tool is ready for distribution and sharing among inventory compilers, NDC MRV participants and other relevant stakeholders.

2.1 How to Access the MRV Tool

The latest version of Integrated MRV Tool uploaded on the Amazon Web Services (AWS) Cloud Server. The MRV Tool can be accessed on following link:

http://imrvtool.com/

FIGURE 2.1: WEBPAGE OF INTEGRATED MRV TOOL (VERSION 1.0)

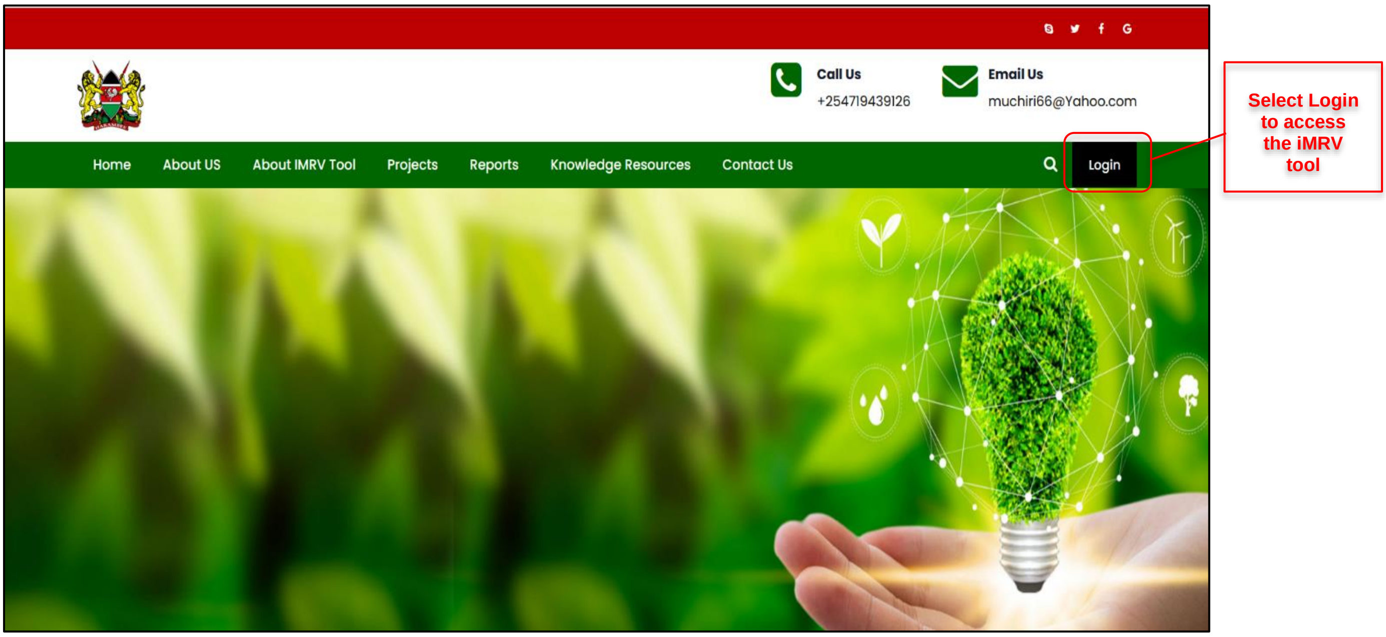
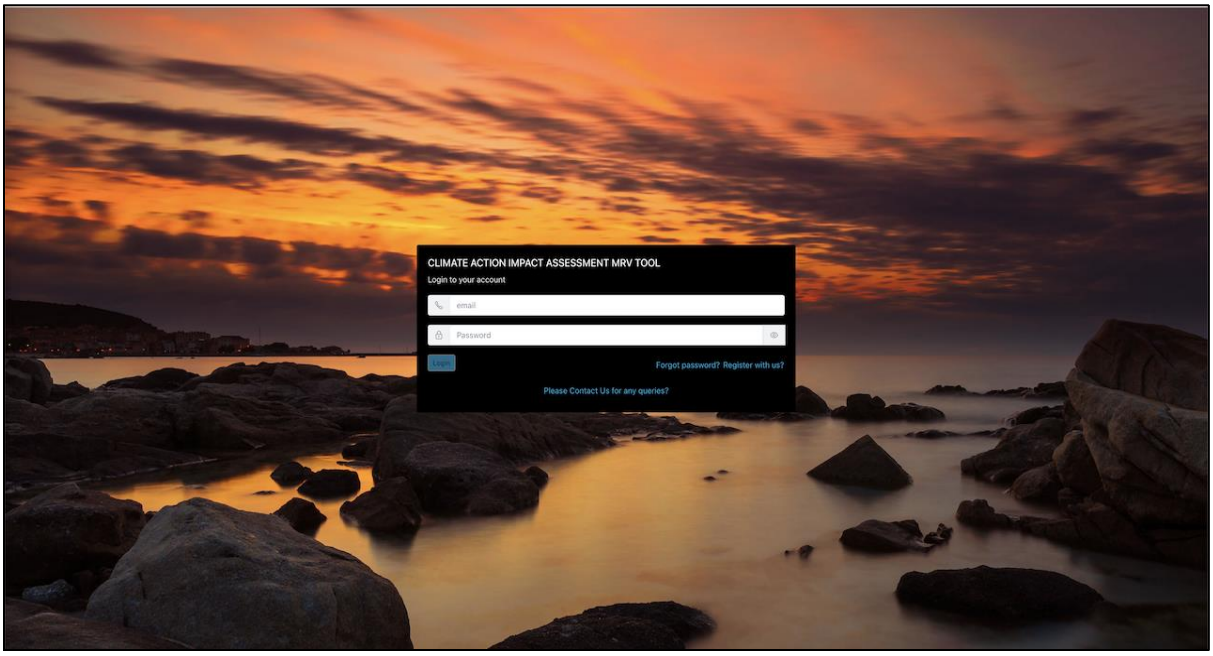


FIGURE 2.2: LOGIN PAGE FOR ACCESSING IMRV TOOL



2.2 MRV Tool User Group

As per the user management framework of Integrated MRV Tool, following user groups are defined:

User Group		User Privilege
MRV Administrator		Have access to the entire MRV tool and functionality, approve/delete new user credentials, edit/delete database.
Nodal Officers		Nodal Officer can access only My Approvals and approves/rejects the data entered by the users in modules of MRV Tool.
Users - MRV Module and Sector User Group		Will have the right to enter/edit data in respective Modules, sector(s)/sub-sectors/projects.

2.2.1 MRV Administrator (IT Administrator)

The MRV-IT Administrator will have overall responsibility of the operation of MRV Tool also responsible for defining new or additional users and has full control over the applications and corresponding databases.

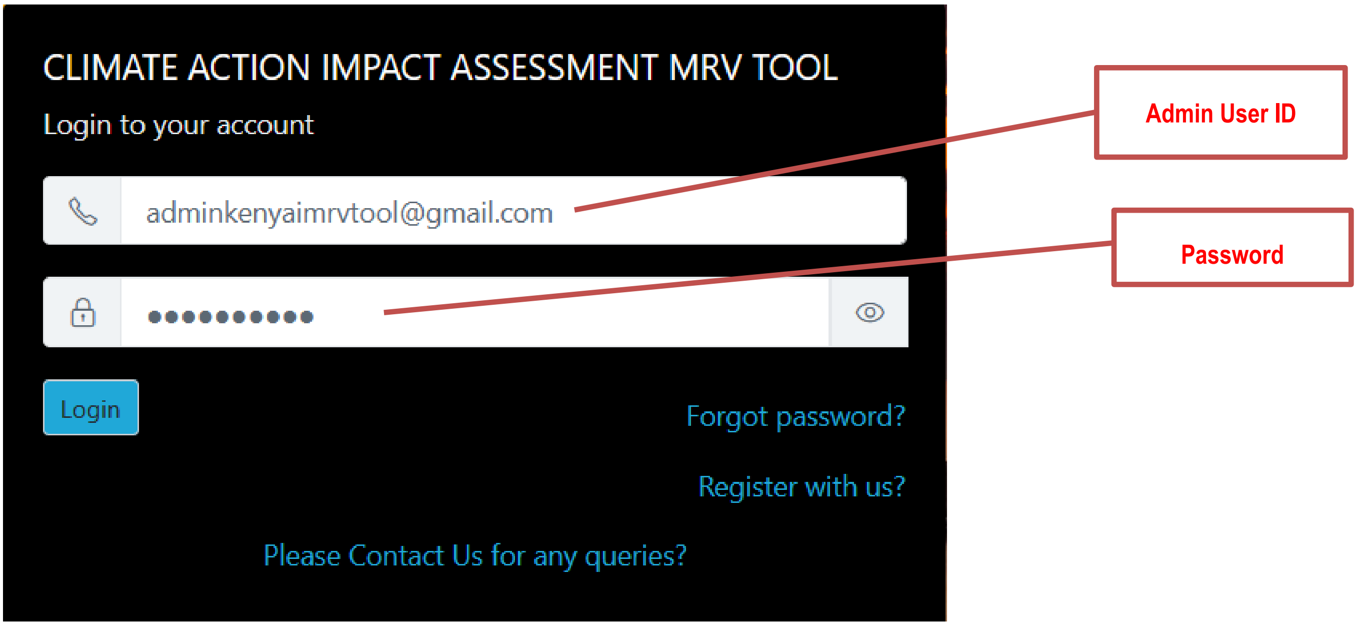
The MRV Administrator shall also:

- Ensure the functioning of the IT structure of MRV System
- Create user accounts on recommendation of MRV-Coordinator
- Assign the user rights and privilege to each Nodal officer and User group.
- Maintain the databases, back-up and system security

2.2.1.1 MRV Administrator Log-in

The CCD shall appoint/designate responsibility of MRV-Administrator.

FIGURE 2.3: INTEGRATED MRV TOOL –ADMINISTRATOR LOG-IN



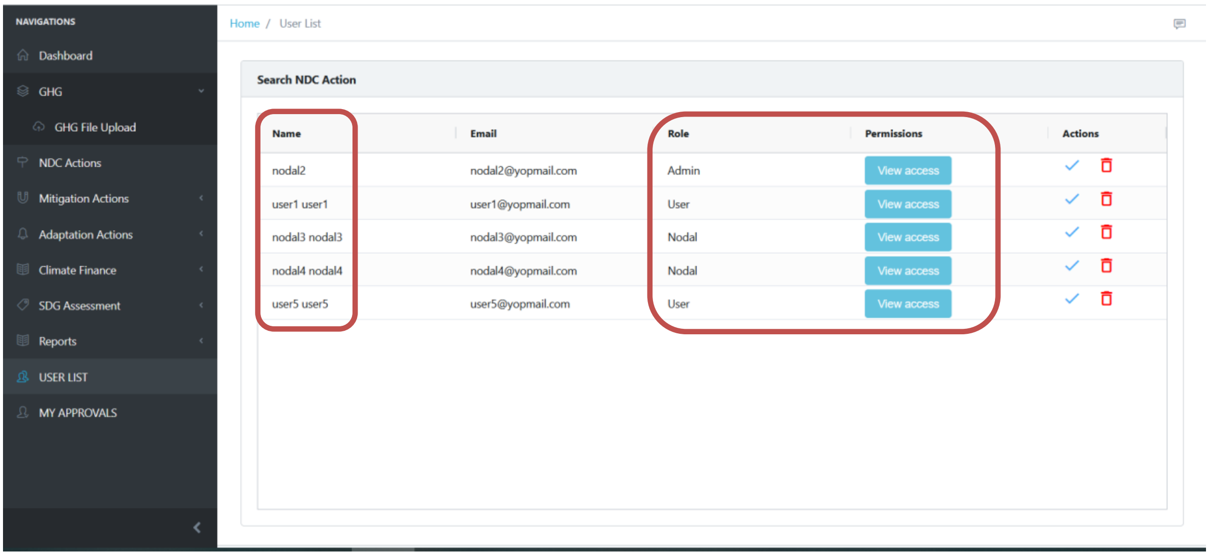
2.2.1.2 MRV Administrator – Master User List

MRV-Administrator on Login can access all the features of iMRV Tool, including:

- Master User List
- New User Approval/Rejection
- Assign access rights to the new user
- Delete user account
- Access to all Approvals – Default approver
- Emission factor database -controls (edit/addition/deletion)
- Population Database controls (edit/addition/deletion)
- IPPU Emission Factor -Controls (edit/addition/deletion)

- GWP Database controls (edit/addition/deletion)
- Access to overall functionality of MRV Tool

FIGURE 2.4: MRV ADMINISTRATOR – MASTER LIST OF EXISTING USERS

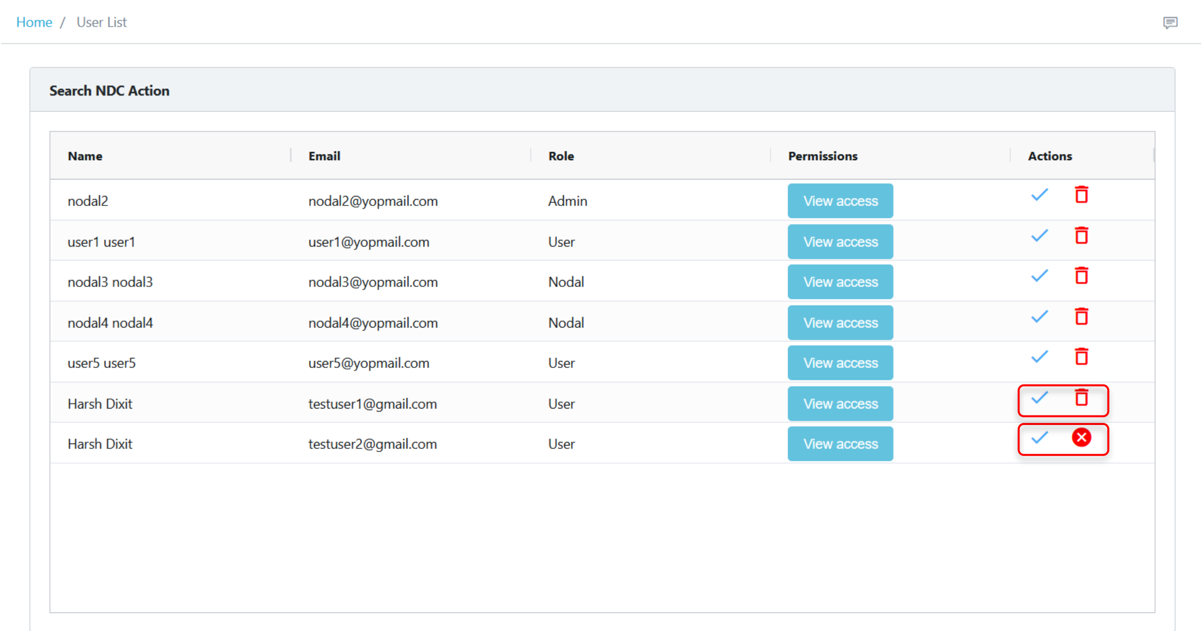


2.2.1.2 MRV Administrator – User Approval and Assign Responsibilities

The MRV Administrator will have overall control on user accounts and can:

- Approve/Reject new user account
- Delete user account

FIGURE 2.5: MRV ADMINISTRATOR – APPROVAL/REJECTION/DELETION



2.2.2 Nodal Officer

The MRV Tool have five main modules viz: Module-1: National GHG Inventory; Module-2: Mitigation Actions; Module-3: Adaptation Actions; Module-4: Climate Finance; and Module-5: SDGs; though MRV Administrator have overall control on all these modules; however as per the MRV system of Kenya, each module shall be headed by a Nodal Office.

The main function of the Nodal officers is:

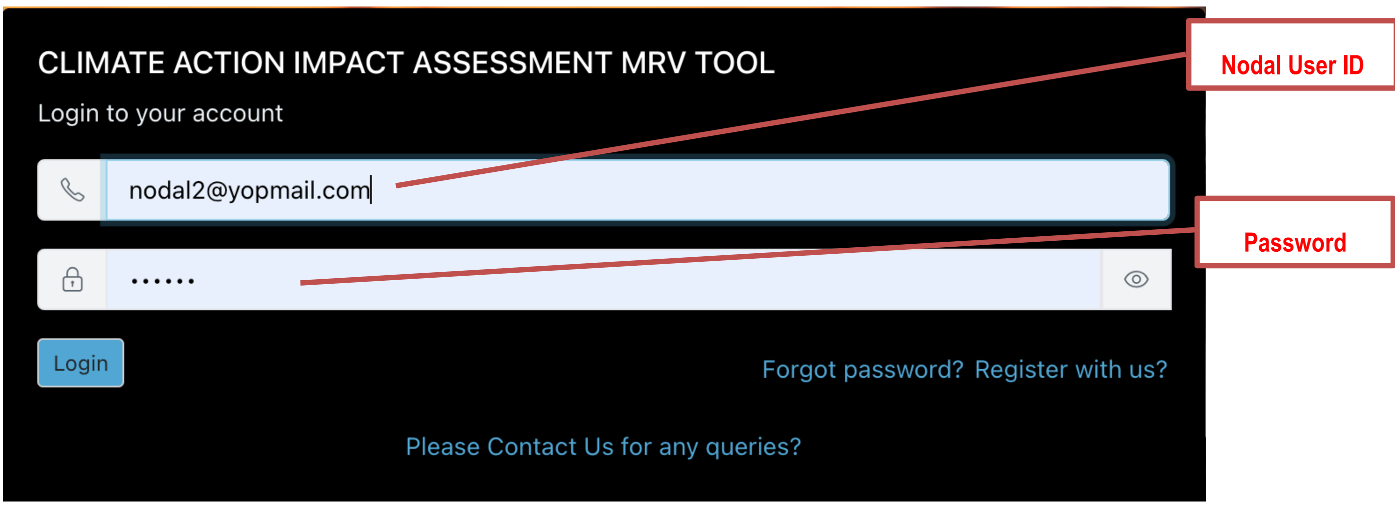
- Approval rights (or they may designate the approval rights to competent user) for the activity data entered and projects created by the user.
- Ensuring functioning of respective module and
- Coordination with MRV Administrator for smooth operation of respective module
- Coordinate among the different Nodal officers.
- Participate in review, validation and verification (internal/external) of data/information
- Any other responsibility designated by MRV coordinator or MRV administrator

2.2.2.1 Nodal Officer Log-in

Nodal officers can access the Integrated MRV Tool via following and using their respective user ID and Password:

In case of any difficulty/error in login/password, please contact MRV administrator.

FIGURE 2.6: INTEGRATED MRV TOOL –NODAL OFFICER LOG-IN



2.2.3 Users (User Group)

The Integrated MRV Tool have five main modules viz: Module-1: National GHG Inventory; Module-2: Mitigation Actions; Module-3: Adaptation Actions; Module-4: Climate Finance; and Module-5: SDGs; each module shall be used by the user groups (assigned by the Nodal Officer).

There can multiple users for each module e.g., for GHG inventory there may be multiple user responsible for each sector and subsectors – Energy Sector, Transport, IPPU, Forestry, Waste etc. or single user may be eligible for using multiple modules e.g., GHG Inventory and Mitigation etc.

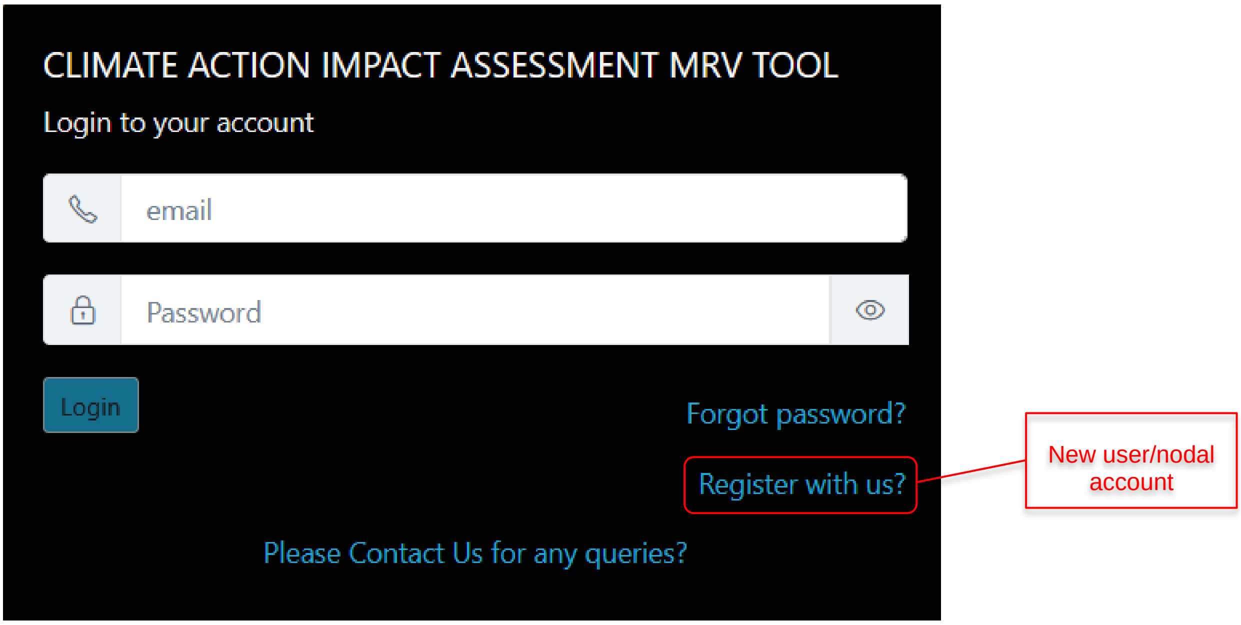
The user shall coordinate with different activity data providers via electronic media to collect the activity data (periodically) and shall update the data in the MRV system. The user shall also verify the data preliminary and submit for approval to the nodal officers.

2.2.4 New Account (User/Nodal)

Following steps to be followed to create new account:

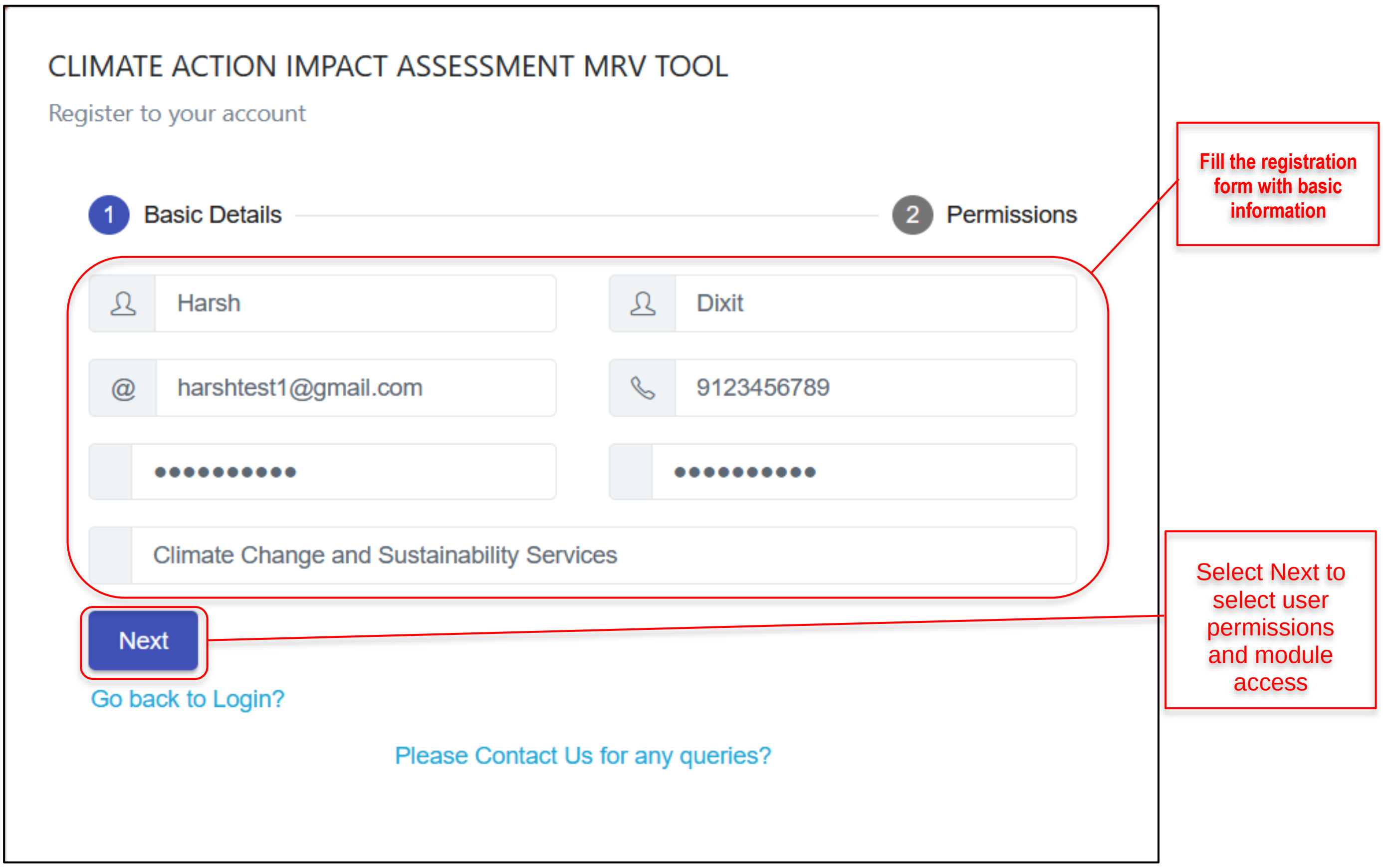
Step-1: Select "Register with us ?" on iMRV Tool login page

FIGURE 2.7: IMRV TOOL – NEW USER ACCOUNT

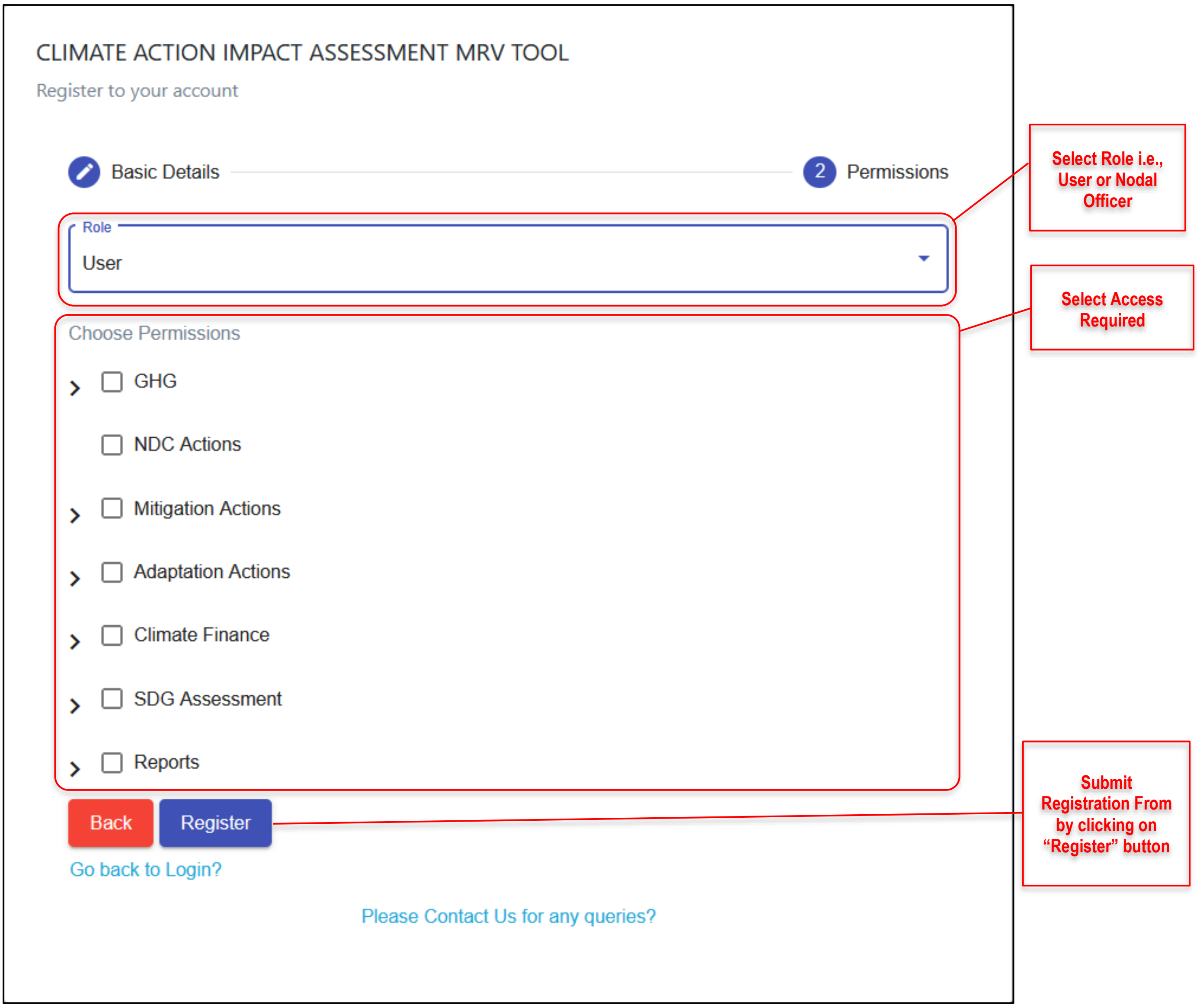


Step-2: Fill the registration form with basic details:

- **First name**
- **Last name**
- **Email:**
- **Mobile number**
- **Password:**
- **Department:**



Step-3: Select Role i.e., User or Nodal Officer



Step-4: Select Access Required:

- ***GHG Inventory***
    - GHG File Upload
- ***NDC Actions***
- ***Mitigation Actions***
    - Mitigation Project Information
    - Mitigation Monitoring Information
- ***Adaptation Actions***
    - Adaptation Project Information
    - Adaptation Monitoring Information
- ***Climate Finance***
    - Climate finance project information
    - Climate finance monitoring information

- ***SDG Assessment***
    - SDG assessment Project Information
    - SDG assessment Monitoring Information
- ***Reports***
    - GHG Inventory Report year wise
    - GHG Inventory Report gas wise
    - Mitigation Summary
    - Finance Summary
    - SDG Summary
    - Adaptation Summary
    - Project MRV Report

Step-5: Submit Registration From by clicking on "Register" button.

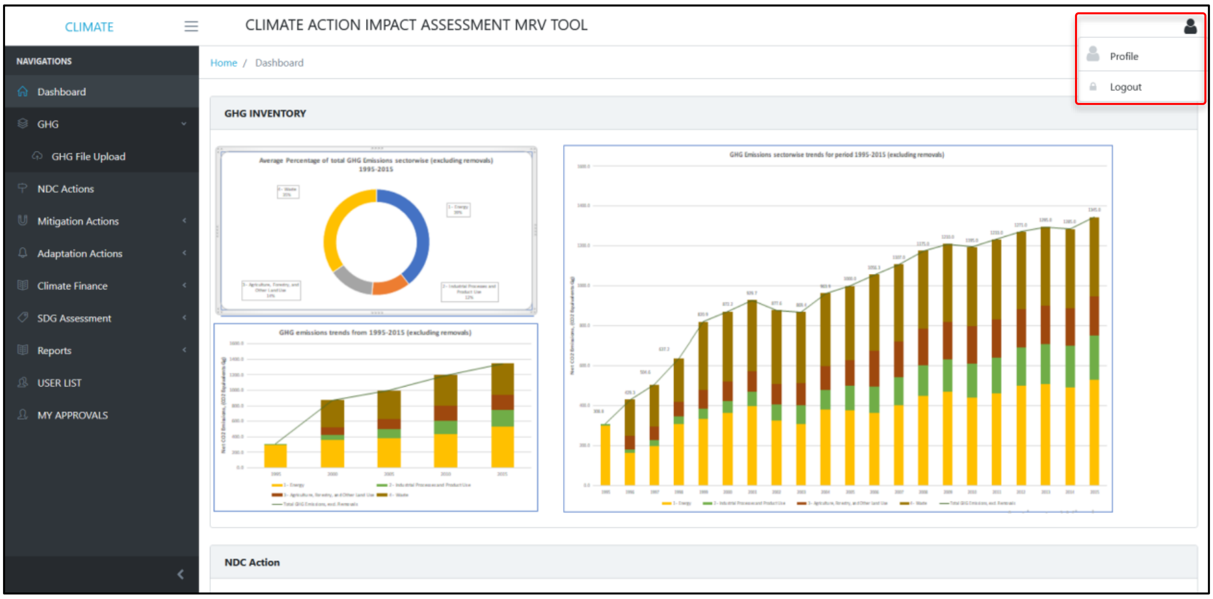
On submission of registration from, the request will be submitted to Administrator for Approval. And new user will receive an email for process.

Once new user approved by the administrator, new user can access the iMRV Tool with Log-in credentials.

2.2.5 Profile/Logout

After logging-in user can select profile/logout by selecting the dropdown on top-right as shown in below illustration:

FIGURE 2.8: PROFILE /LOGOUT



2.2.6 MRV Tool – Dashboard

On logging-in the Dashboard page will appear to all the users. On this Dashboard user will get following information:

- Total GHG emissions for inventory year,

- GHG emissions reduced (expected and achieved),
- Total climate actions undertaken
- Climate Finance allocated and spent
- Number of Mitigation/Adaptation/Cross Cutting climate actions undertaken

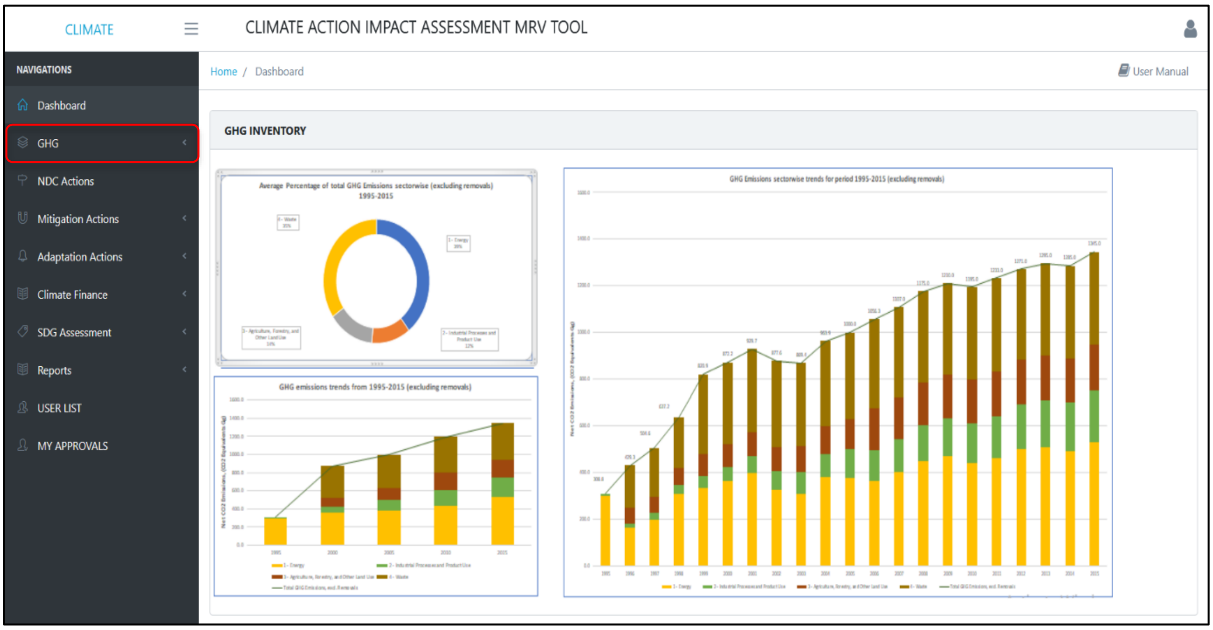
Further it should be noted that MRV administrator will land directly to user list and interface whereas nodal officer has access to My Approvals Only.

FIGURE 2.9: MRV TOOL – DASHBOARD

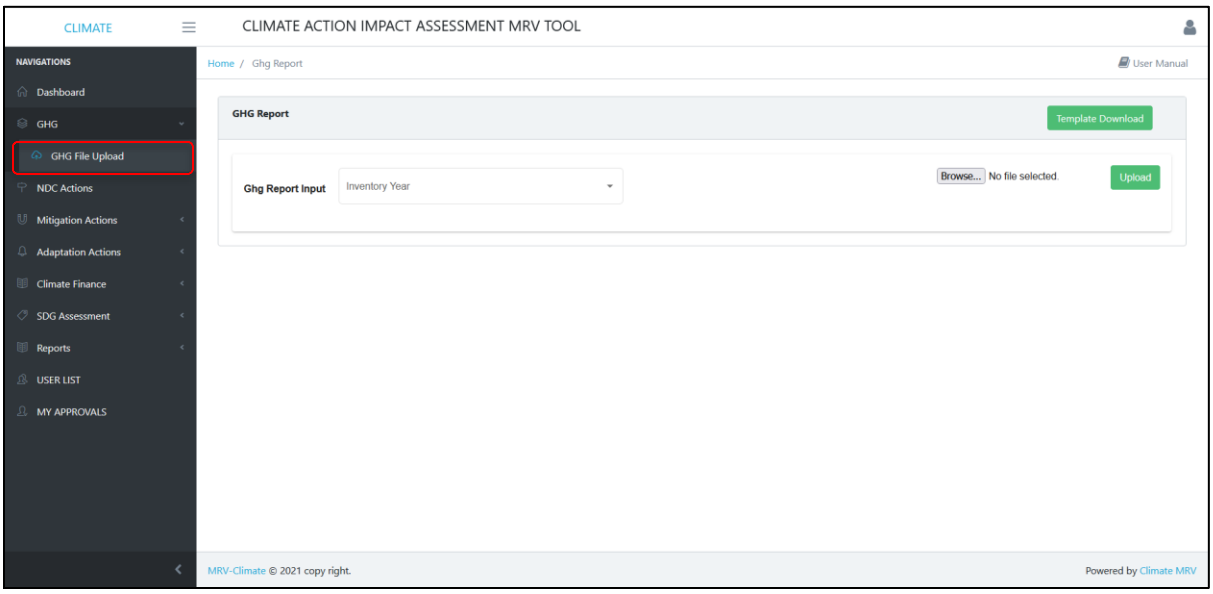
3. GHG Inventory Module

GHG Inventory module in this version of integrated MRV tool has been customised for Kenya which currently includes GHG file upload functionality for the inventory year. The basic approach of the software now is to directly input the GHG emissions data for different sectors and respective categories in default GHG emissions template available for download and upload it in the integrated MRV Tool. Following steps to be followed for successfully uploading the GHG emissions data for an inventory year:

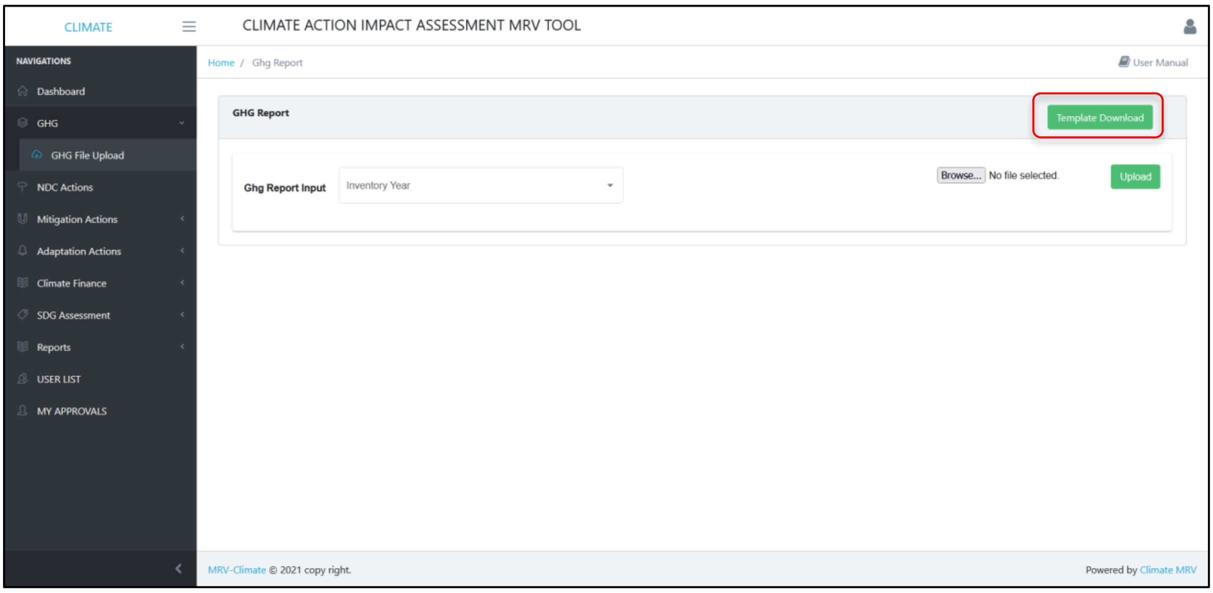
Step-1: After login, on the homepage of the tool, in the navigation menu select GHG.



Step-2: Select GHG file upload



Step-3: Download the GHG Inventory template by selecting the 'Template Download' button.

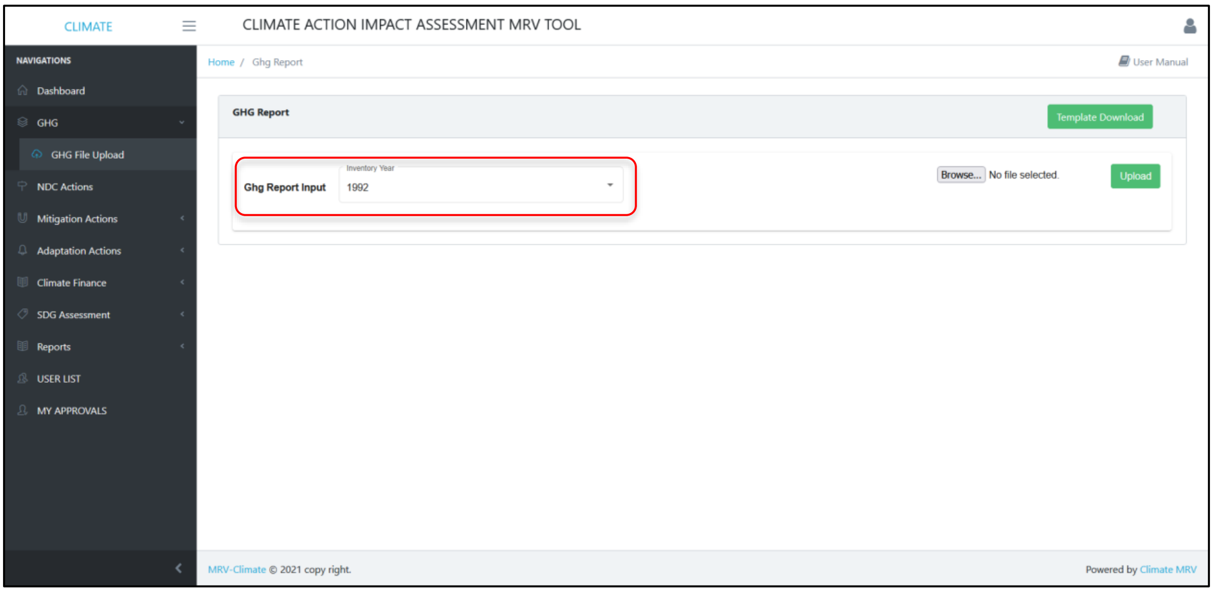


Step-4: Open the downloaded template excel file

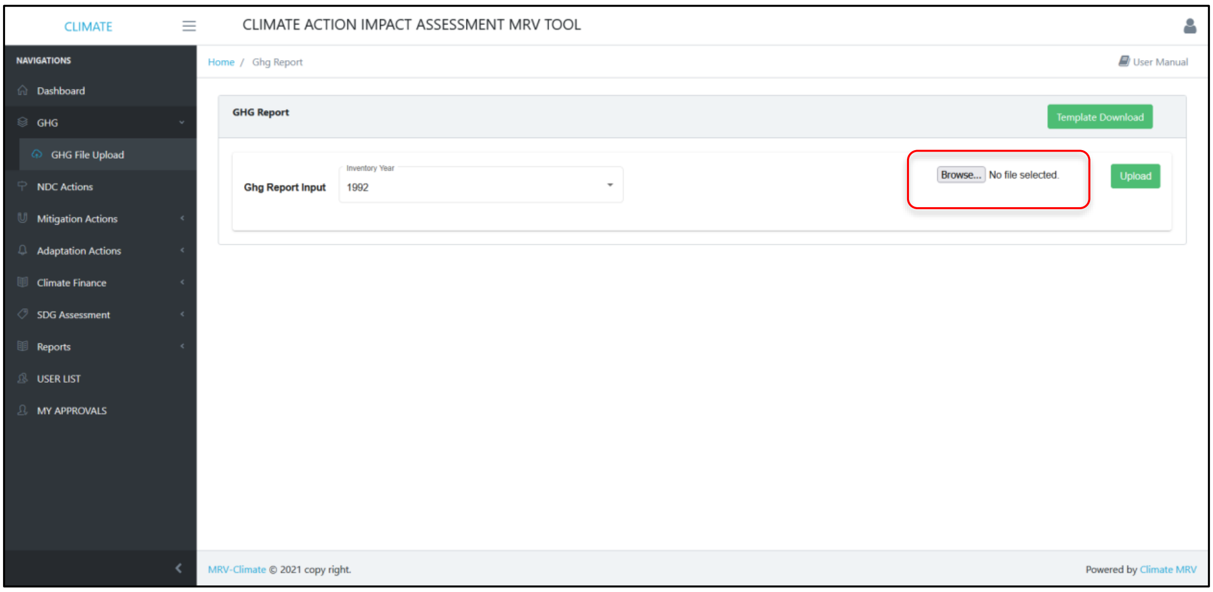
Step-5: First edit the inventory year in the excel file, then input the GHG emissions data for different sectors and their respective categories.

Step-6: Save the excel file

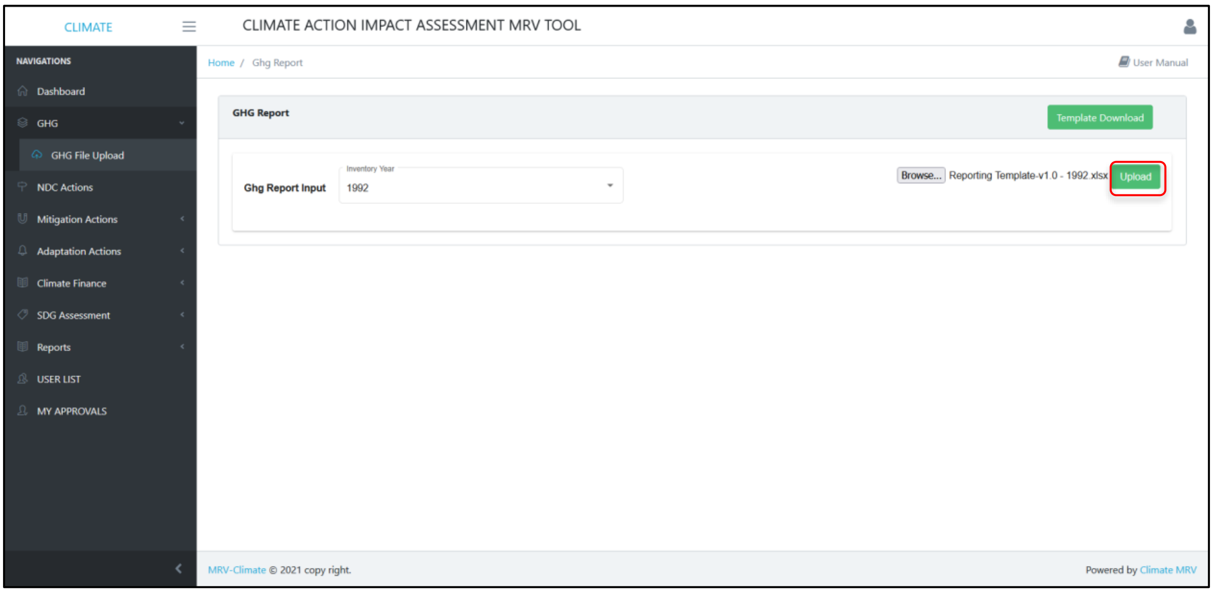
Step-7: On the GHG file upload page, select the inventory year



Step-8: Select browse and upload the filled excel file template for the selected inventory year



Step-9: Select upload button



Step-10: To verify if data is uploaded, again select GHG file upload in the navigation menu and select inventory year for which filled excel file template was uploaded.

Further user can also download the already uploaded GHG emissions file by selecting the download button for an inventory year.

4. NDC Actions/Projects Module

The first activity to developing the mitigation/adaptation/climate finance/SDG impact database is to create an action or project in the MRV database. This activity captures basic information about the action or project. The sub-modules required for mitigation, adaptation, finance and SDG, action or project to be created using the information entered in this module.

FIGURE 4.1: NEW NDC ACTION SCREEN NAVIGATION AND SEARCH NDC ACTION SCREEN

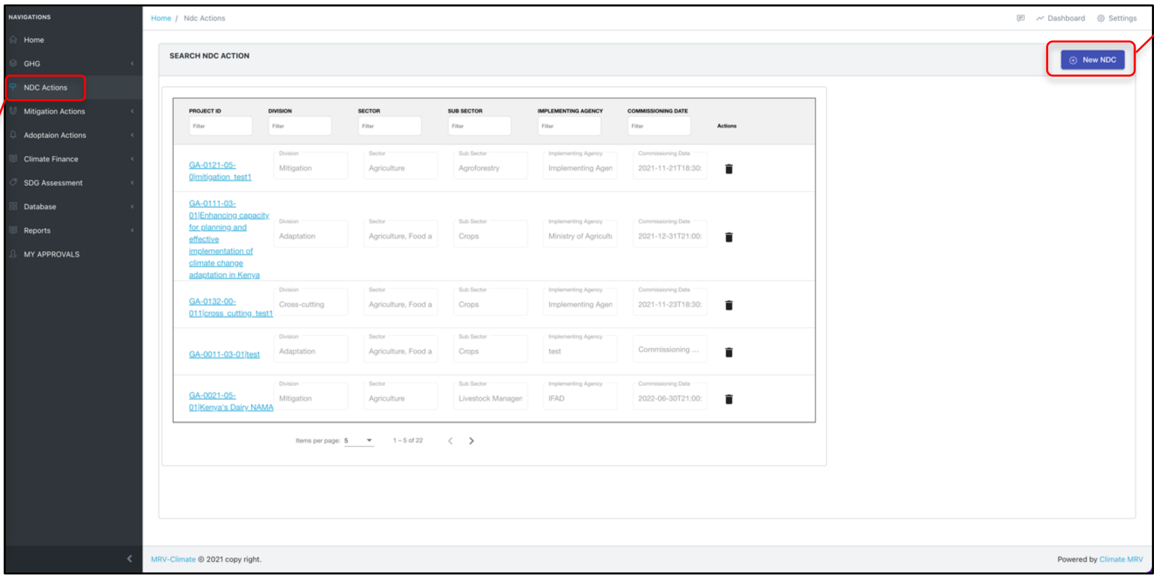
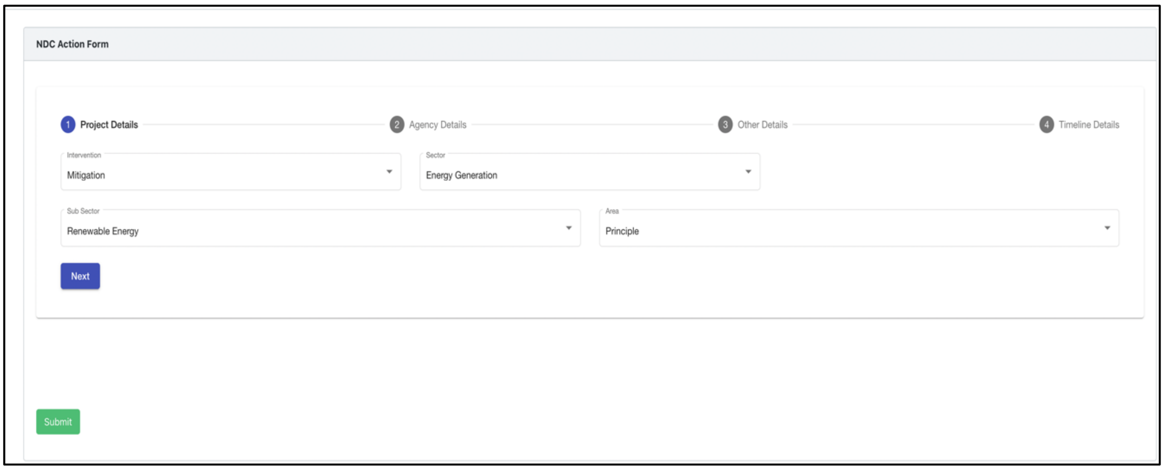


FIGURE 4.2: NDC ACTION FORM – PROJECT DETAILS



Project Details –

Intervention: Select Mitigation/Adaptation/Cross-cutting/Enablers from the drop-drown list. By definition enablers refers to those projects/programmes which focus on enhancing capacities of systems and societies to mitigate/adapt to the associated climate change, while achieving sustainable development, eradicating poverty and reducing inequalities. These can include finance/technological innovations, strengthening of policy instruments in a country etc.

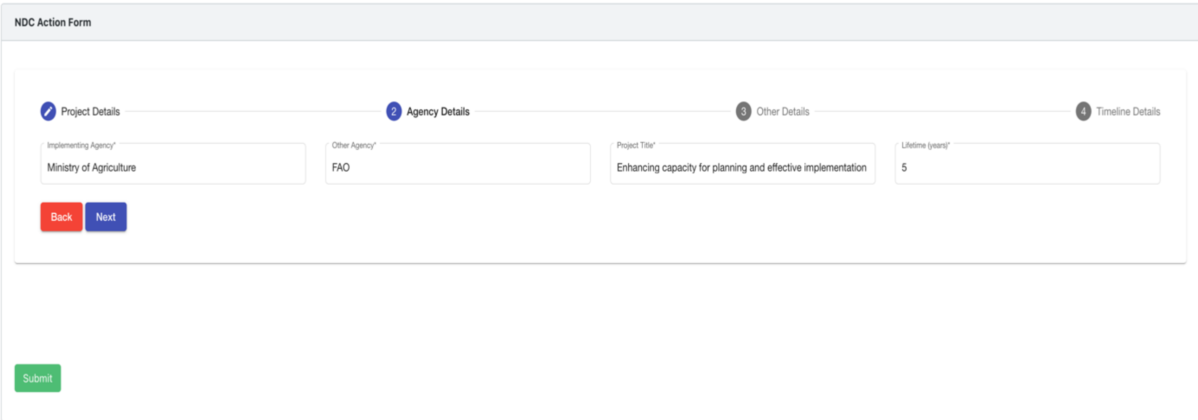
Sector: Select the sector from the drop-down list.

Sub-Sector: Select the sub-sector from the drop-down list.

Area: Select 'Principal' or 'Significant' from the dropdown list. By definition a climate action project/programme can be marked principal when the objective (climate change mitigation or adaptation) is explicitly stated as fundamental in the design of, or the motivation for, the project/programme. Promoting the objective will thus be stated in the project documentation as one of the principal reasons to undertake it. In other words, the activity would not have been funded (or designed that way) but for that objective. On the other hand, a climate action project/programme can be marked significant when the objective (climate change mitigation or adaptation) is explicitly stated but it is not the fundamental driver or motivation. Instead, the project/programme has other prime objectives, but has been formulated or adjusted to help meet relevant climate concerns.

User should select 'Next' to access the 'Agency Details' tab

FIGURE 4.3: NDC ACTION FORM - AGENCY DETAILS



<u>**Agency Details -**</u>

Implementing Agency: Enter the name of implementation agency (keep the name short and consistent).

Other Agency: Enter name of other party involved in the project implementation/financing etc.

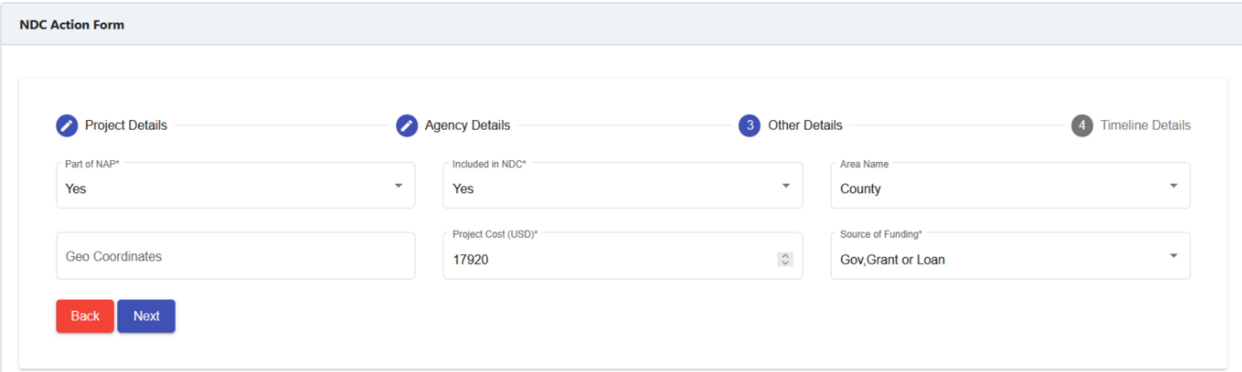
Project Title: Enter title for the project (this should be short and simple to identify the project)

Lifetime (years): Enter value for lifetime of the project. By definition lifetime refers to the length of the time that a equipment, machinery, construction work etc. established is expected to function and after that period it will fail or stop working.

User should select 'Next' to access the 'Other Details' tab

User can select 'Back' to navigate back to 'Project Details' tab

FIGURE 4.4: NDC ACTION FORM - OTHER DETAILS



Other Details –

Part of NAP/NAPA/NAMA: Select appropriate option from the drop-down list.

Included in NDC: Select 'Yes' or 'No' from the drop-down list.

Area Name: Select location of the project from the drop-down list.

Geo Coordinates: Enter the geographical coordinates (latitude and longitude) of project activity site.

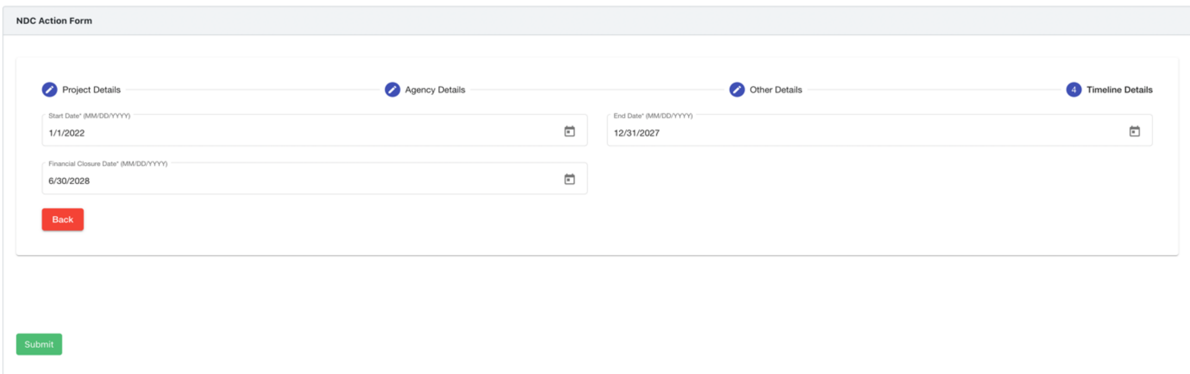
Project Cost (USD): Enter total cost of the project in USD.

Source of Funding: Select the source of funding for the project from the drop-down list.

User should select 'Next' to access the 'Timeline Details' tab

User can select 'Back' to navigate back to 'Agency Details' tab

FIGURE 3.5: NDC ACTION FORM - TIMELINE DETAILS



Timeline Details -

Start Date: Select/Enter date of effectiveness for the project.

End Date: Select/Enter end date for the project.

Financial Closure Date: Select/Enter financial closure date for the project. By definition it refers to the date on which the total expenditure, sources of revenue and how this revenue will be spent are finalised and signed, for successful completion of the particular project/action.

User can select 'Back' to go to 'Other Details' tab

User should provide information for all the identifiers marked with asterisk (*) for successful submission of a project.

User should submit the project data in the database using 'Submit' button and a unique project Id is created at the backend.

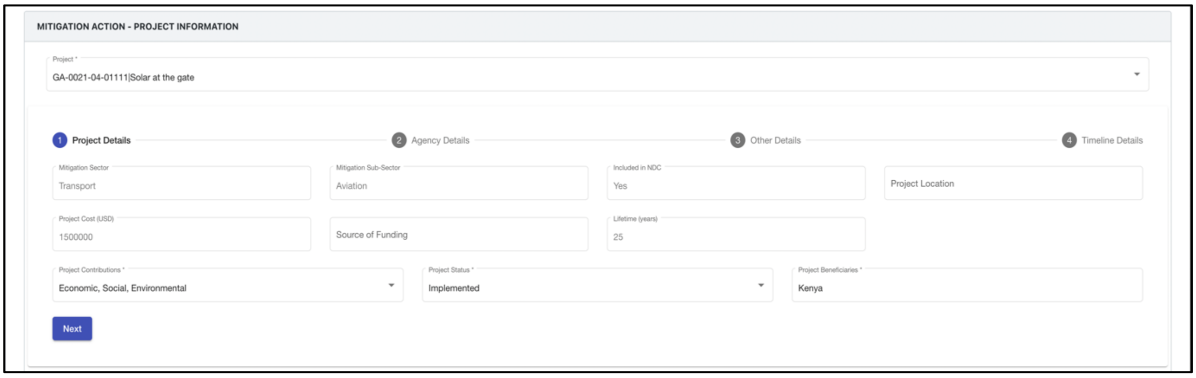
5. Mitigation Actions Module

The Mitigation Action Tracking Module focus on both project implementation and operation phase. The bottom-up approach is applied to develop a comprehensive and integrated system considering the unique requirement of a country. However, this is being developed as a living framework and shall be updated on periodic basis or as and when required. It is important to integrate the existing national processes for project monitoring with the new tool to avoid duplication and maximize the use of resources. The module will allow for efficient integration and strengthening between what exists and what is expected be developed. Importantly, appropriate monitoring indicators and parameters (e.g., raw data needs) will be identified and monitored at either the mitigation action level, or at the sub-sector level.

5.1 Mitigation Actions - Project Information

To initiate the Mitigation action monitoring, user needs to include the baseline project information in the database against which NDC mitigation action project can be tracked/monitored.

FIGURE 5.1: MITIGATION ACTION PROJECT INFORMATION FORM – PROJECT DETAILS



Project: Select a project already created (using Projects module) from the drop-down list.

<u>Project Details –</u>

Values in Mitigation Sector, Mitigation Sub-sector, Included in NDC, Project Location, Project Cost, Sources of Funding and Lifetime (years) identifiers are auto-populated.

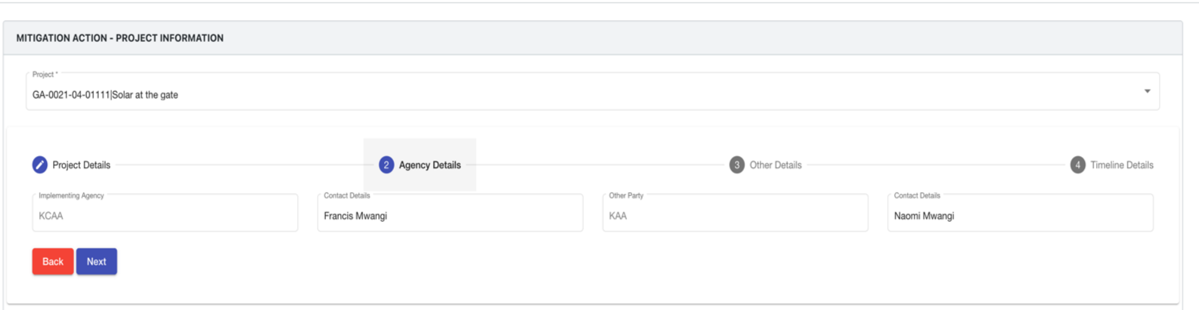
Project Contributions: Select appropriate project contributions from the drop-down list.

Project Status: Select appropriate value for project status from the drop-down list.

Project Beneficiaries: Enter name of beneficiaries related to project activity.

User should select 'Next' to access the 'Agency Details' tab

FIGURE 5.2: MITIGATION ACTION PROJECT INFORMATION FORM – AGENCY DETAILS



Agency Details –

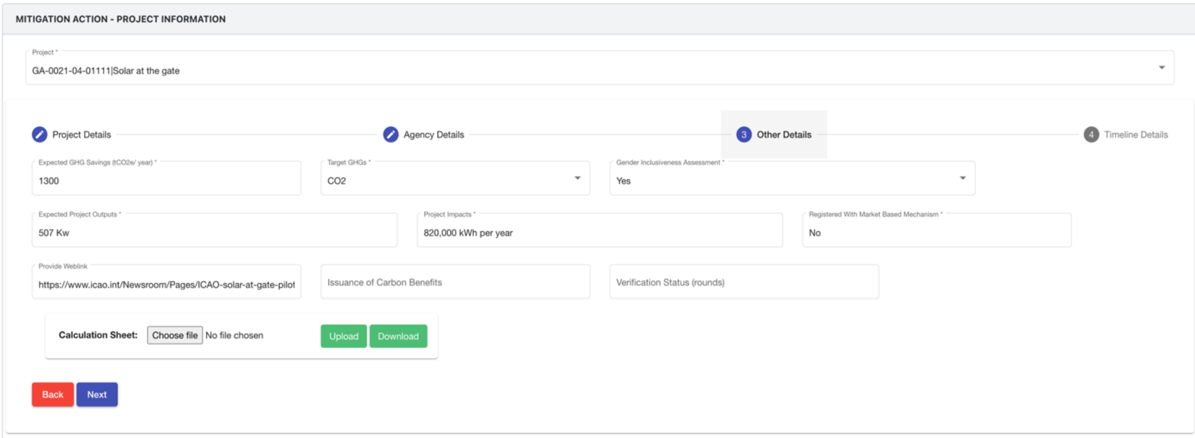
Values in Implementing Agency and Other Party identifiers are auto-populated.

Contact Details: User should provide key contact information such as address for the Implementing Agency as well as for other party if present.

User should select 'Next' to access the 'Other Details' tab

User can select 'Back' to return to 'Project Details' tab

FIGURE 4.3: MITIGATION ACTION PROJECT INFORMATION FORM – OTHER DETAILS



Other Details –

Expected GHG Savings (tCO2e/ year): Enter value for expected annual GHG emission reductions in the project.

Target GHGs: Select appropriate GHGs reduced by implementation of the project activity from the drop-down list.

Gender Inclusiveness Assessment: Select appropriate option from the drop-down list.

Expected Project Outputs: Enter name of expected project outputs related to project activity.

Project Impacts: Enter project impacts related to project activity.

Registered With Market Based Mechanism: Enter name of market-based mechanism for which the project activity is registered.

Provide Weblink: Enter URL of market-based mechanism for which the project activity is registered

Issuance of Carbon Benefits: Enter in brief if any type of carbon benefits is issued.

Verification Status (rounds): Enter expected value for verification rounds to be conducted in relation to issuance of carbon benefits.

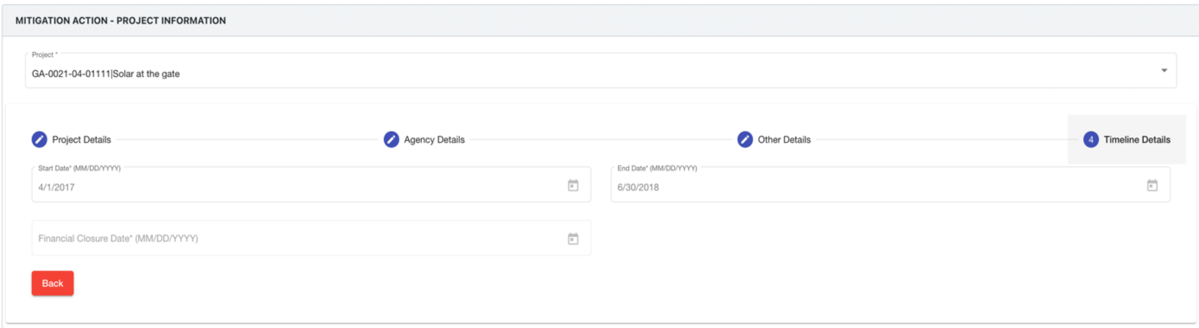
In 'Calculation Sheet' dialog box, user should select 'Choose file' and select 'Upload' button to upload any emission calculation sheet or other related files in the tool.

User can select 'Download' button to download any previously uploaded emission calculation sheet or related files from the tool.

User should select 'Next' to access the 'Timeline Details' tab

User can select 'Back' to return to 'Agency Details' tab

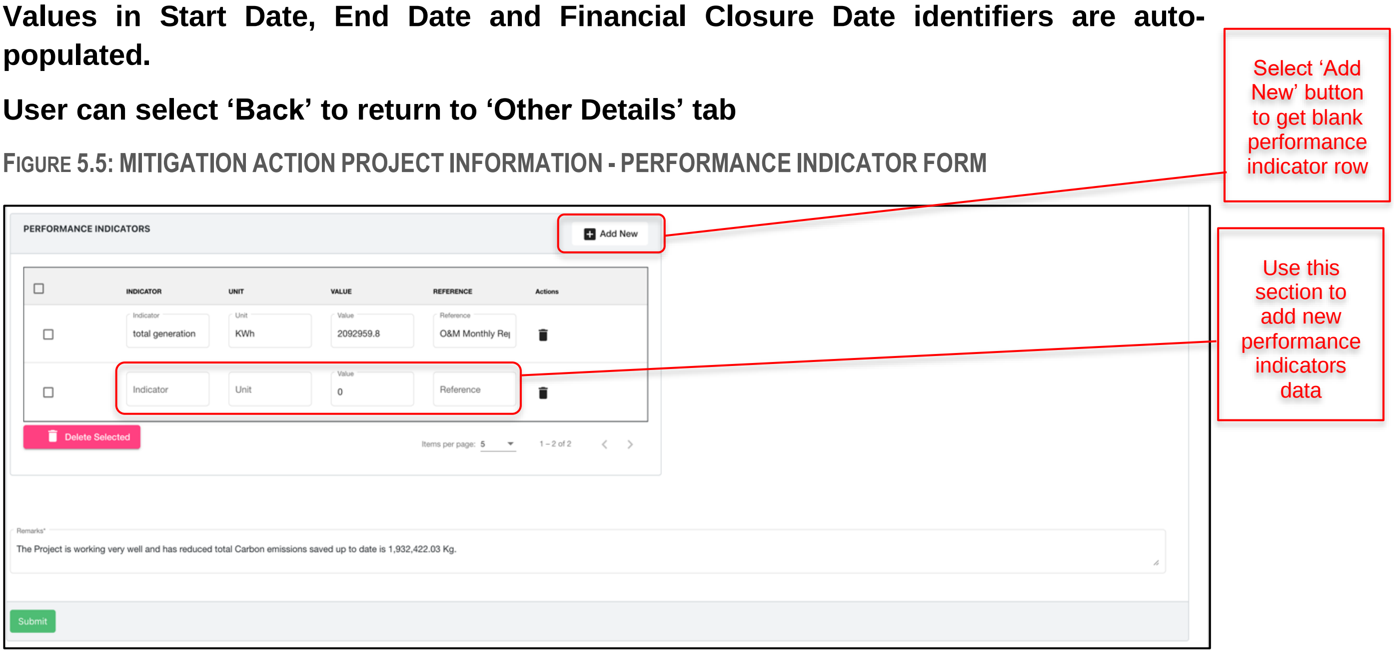
FIGURE 5.4: MITIGATION ACTION PROJECT INFORMATION FORM – TIMELINE DETAILS



Values in Start Date, End Date and Financial Closure Date identifiers are auto-populated.

User can select 'Back' to return to 'Other Details' tab

FIGURE 5.5: MITIGATION ACTION PROJECT INFORMATION - PERFORMANCE INDICATOR FORM



Add New: Select 'Add New' button to get blank row for inserting new performance indicator details.

Indicator: Enter name of performance indicator to be monitored for project activity.

Unit: Enter name of unit in which the performance indicator to be measured and monitored for project activity. (MWh, tonnes etc.)

Value: Enter expected value for the performance indicator to be measured and monitored for project activity. (1000, 20000 etc.)

Reference: Enter the data source for the performance indicator (eg. Detailed Project Report)

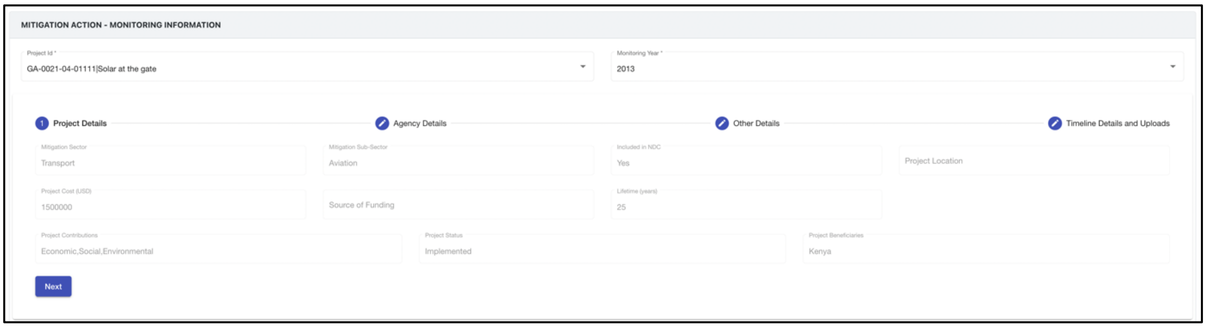
Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the project information

User should submit the project information data using submit button.

5.2 Mitigation Actions - Monitoring Information

To track the NDC Mitigation action user need to enter the monitoring data on annual basis.

FIGURE 5.6: MITIGATION ACTION MONITORING INFORMATION FORM – PROJECT DETAILS



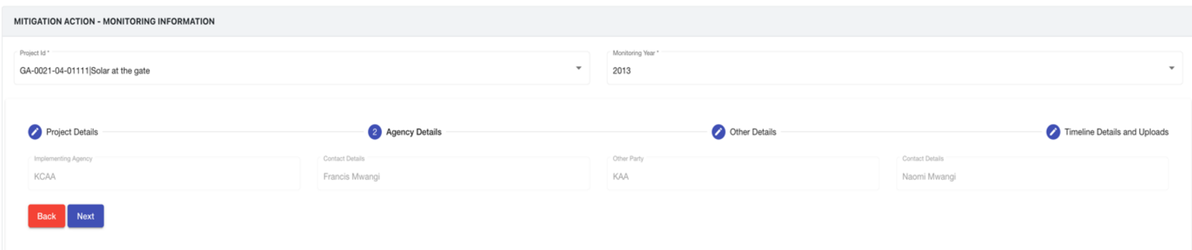
Project Id: Select the project from the drop-down list.

Monitoring Year: Select monitoring year from the drop-down list.

Values in Mitigation Sector, Mitigation Sub-sector, Included in NDC, Project Location, Project Cost, Sources of Funding, Lifetime (years), Project Contributions, Project Status and Project Beneficiaries identifiers are auto-populated.

User should select 'Next' to access the 'Agency Details' tab

FIGURE 5.7: MITIGATION ACTION MONITORING INFORMATION FORM – AGENCY DETAILS



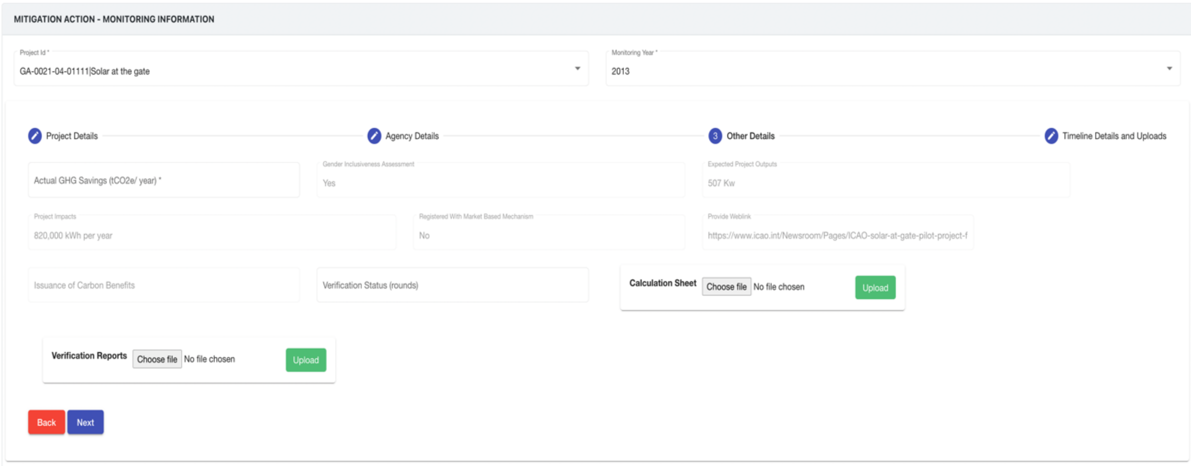
<u>Agency Details –</u>

Values in Implementing agency, Contact Details, Other Party and Contact Details identifiers are auto-populated

User should select 'Next' to access the 'Other Details' tab

User can select 'Back' to return to 'Project Details' tab

FIGURE 5.5: MITIGATION ACTION MONITORING INFORMATION FORM – OTHER DETAILS



<u>Other Details –</u>

Actual GHG Savings (tCO_2e/ year): Enter value for actual annual GHG emission reductions for the project.

Values in Gender Inclusiveness Assessment, Expected Project Outputs, Project Impacts, Registered with Market Based Mechanism, Provide Weblink and Issuance of Carbon Benefits identifiers are auto-populated.

Verification Status (rounds): Enter the value for number of verification rounds completed for the project in the monitoring year

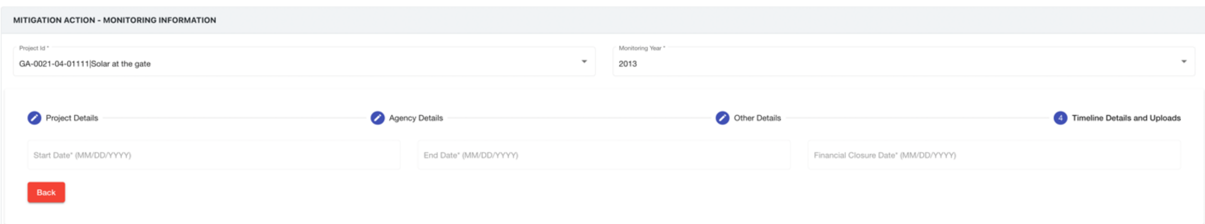
In 'Calculation Sheet' dialog box, user should select 'Choose file' and select 'Upload' button to upload any emission calculation sheet or other related files in the tool.

In 'Verification Reports' dialog box, user should select 'Choose file' and select 'Upload' button to upload any verification reports or other related files in the tool.

User should select 'Next' to access the 'Timeline Details and Uploads' tab

User can select 'Back' to return to 'Agency Details' tab

FIGURE 5.6: MITIGATION ACTION MONITORING INFORMATION FORM – TIMELINE DETAILS AND UPLOADS

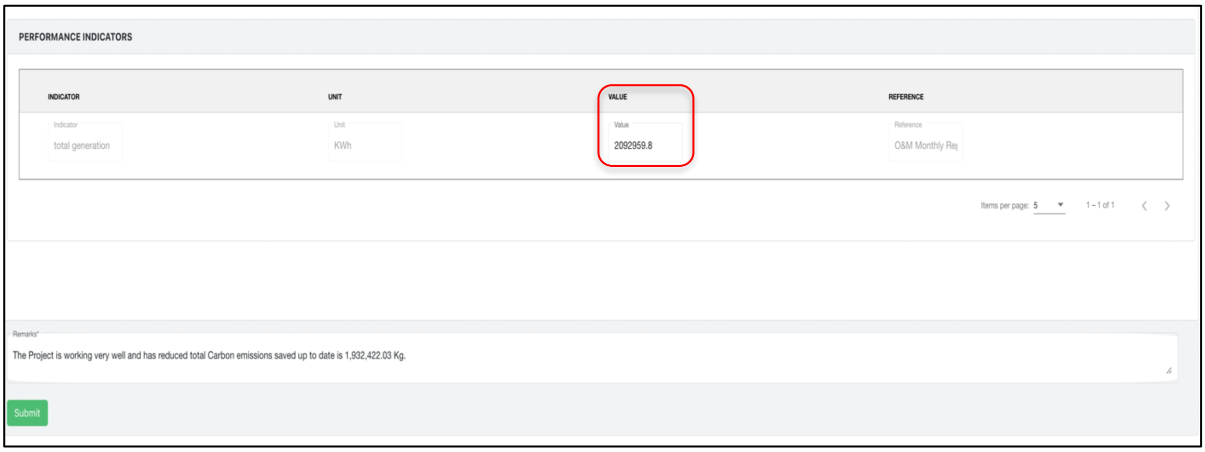


<u>Timeline Details and Uploads –</u>

Values in Start Date, End Date and Financial Closure Date identifiers are auto-populated.

User can select 'Back' to return to 'Other Details' tab

FIGURE 5.10: MITIGATION ACTION MONITORING INFORMATION - PERFORMANCE INDICATOR FORM



Value: Enter actual value for the performance indicator measured and monitored for project activity.

Reference: Enter the data source for the actual value of performance indicator (eg. Monitoring Report)

Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the monitoring information

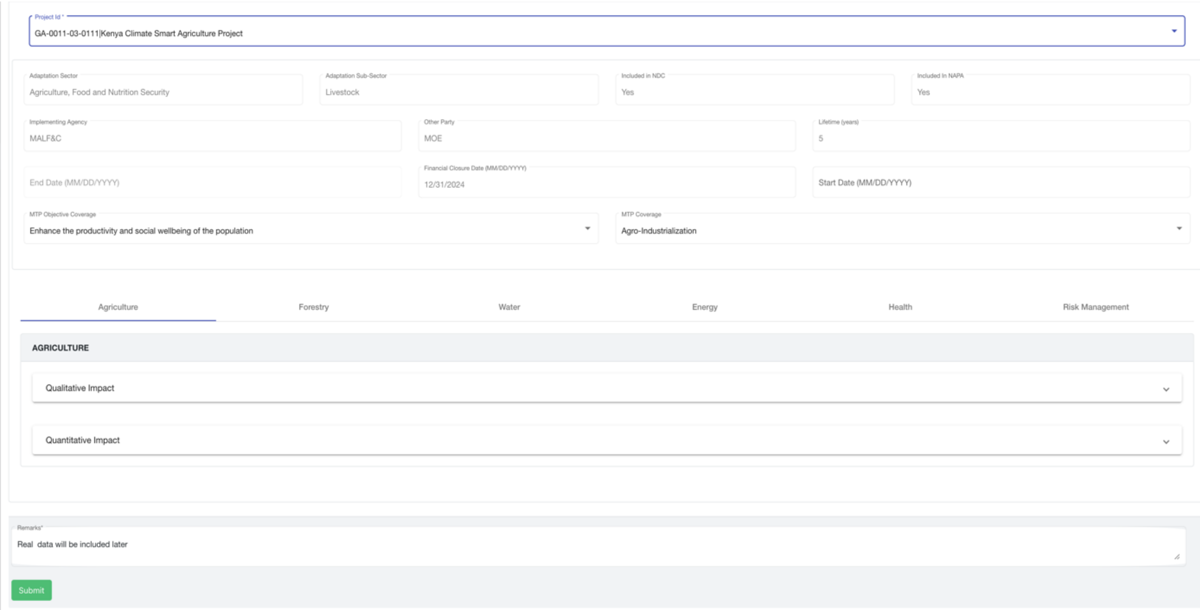
User should submit the project monitoring data using submit button.

6. Adaptation Actions Module

The Adaptation action tracking module will follow similar bottom-up approach and methodology as for GHG inventory and Mitigation Action Tracking. Adaptation module shall perform tracking both for qualitative as well as quantitative information.

6.1 Adaptation Actions - Project Information

FIGURE 6.1: ADAPTATION ACTION PROJECT INFORMATION FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Values in Adaptation Sector, Adaptation Sub-Sector, Included in NDC, Included in NAPA, Implementing Agency, Other Party, Lifetime (years), End Date, Financial Closure Date and Start Date identifiers are auto-populated.

MTP Objective Coverage: Select MTP objective from drop-down list. Following objectives are included:

- Enhance value addition in key growth opportunities
- Strengthen the private sector to create jobs
- Consolidate and increase the stock and quality of productive infrastructure
- Enhance the productivity and social wellbeing of the population
- Strengthen the role of the state in guiding and facilitating development

MTP Coverage: Select MTP coverage from drop-down list. Following coverage area are included:

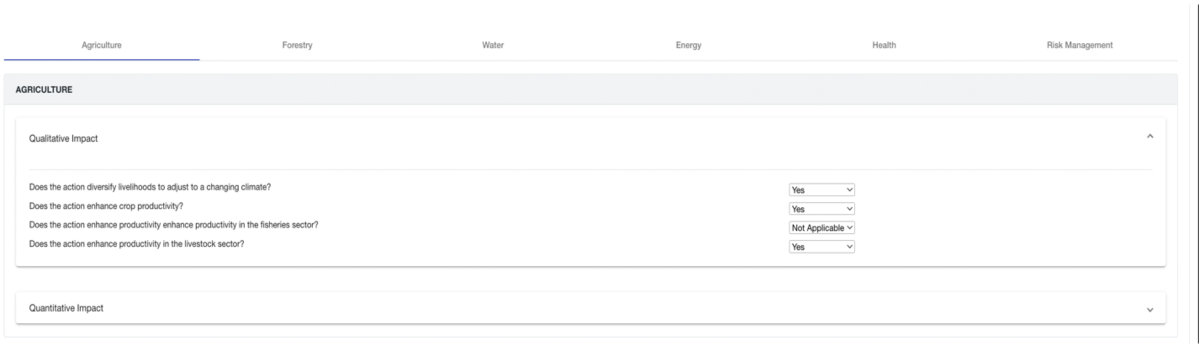
- Agro-Industrialization
- Mineral-based Industrialization
- Petroleum Development
- Tourism Development
- Water, Climate Change and ENR Management

- Private Sector Development
- Manufacturing
- Digital Transformation
- Integrated Transport Infrastructure and Services
- Sustainable Energy Development
- Sustainable Urban and Housing Development
- Human Capital Development
- Community Mobilization and Mindset Change
- Innovation, Technology Development and Transfer
- Regional Development
- Governance and Security
- Public Sector Transformation
- Development Plan Implementation
- Climate Hazard

By selecting the priority area name (Agriculture, Forestry, Water, Energy, Health and Risk Management) qualitative and quantitative questionnaire form will be displayed for each priority area.

Qualitative Impact

FIGURE 6.2: ADAPTATION ACTION PROJECT INFORMATION - QUALITATIVE IMPACT FORM

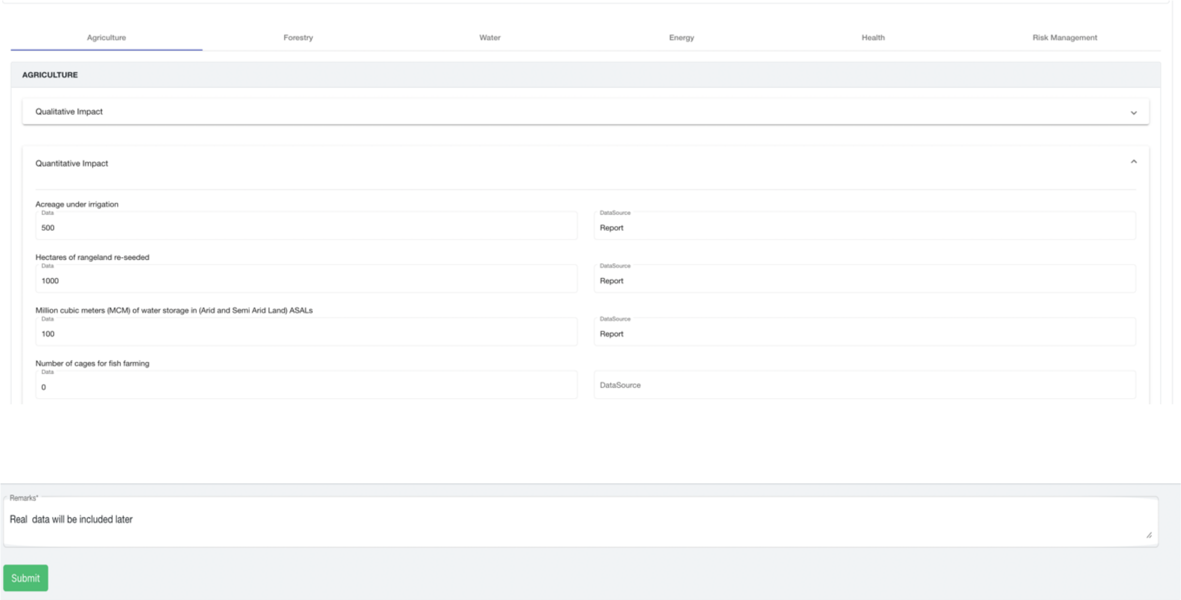


Qualitative Impact: Select 'Qualitative Impact' to expand the section for questionnaire.

User can select 'Yes/No/Not Applicable' as preferred from the drop-down list against each qualitative indicator.

Quantitative Impact

FIGURE 6.3: ADAPTATION ACTION PROJECT INFORMATION - QUANTITATIVE IMPACT FORM



Quantitative Impact: Select 'Quantitative Impact' to expand the section for questionnaire.

Data: Enter baseline data for the respective quantitative assessment.

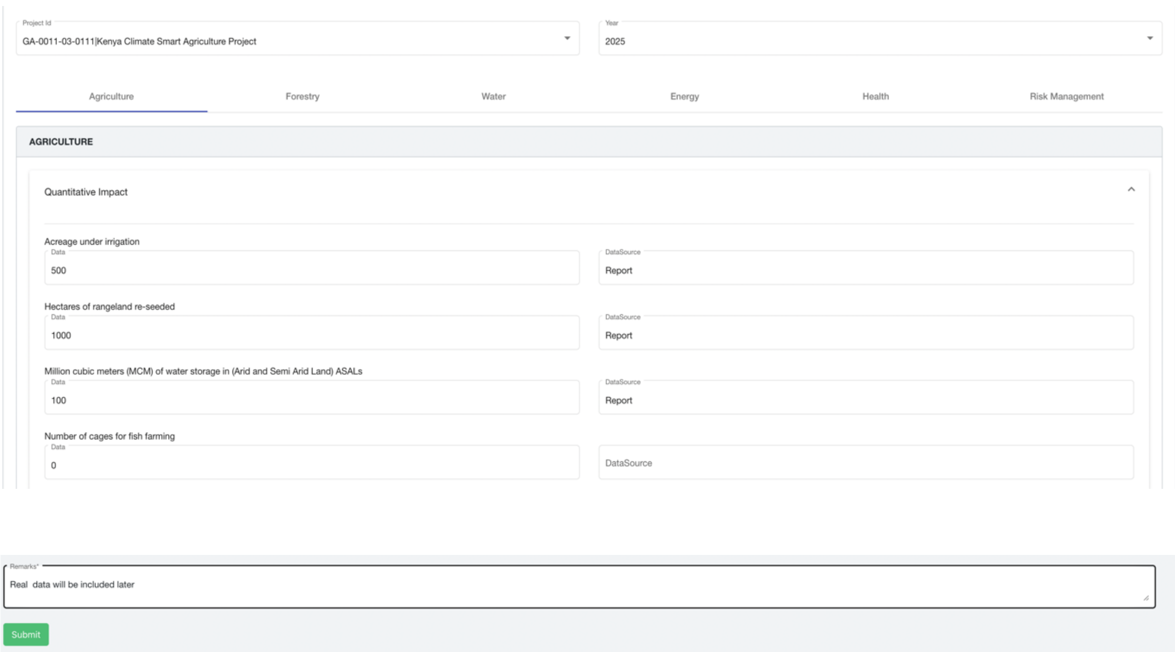
Data Source: Enter reference for baseline data of respective quantitative assessment.

Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the project information

User should submit the project information data using submit button.

6.2 Adaptation Actions – Monitoring Information

FIGURE 6.4: ADAPTATION ACTION MONITORING INFORMATION FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Year: Select monitoring year from the drop-down list.

By selecting the priority area name (Agriculture, Forestry, Water, Energy, Health and Risk Management) quantitative assessment form will be displayed for respective priority area.

Data: Enter value for actual data for the respective quantitative assessment.

Data Source: Enter references for data of respective quantitative assessment.

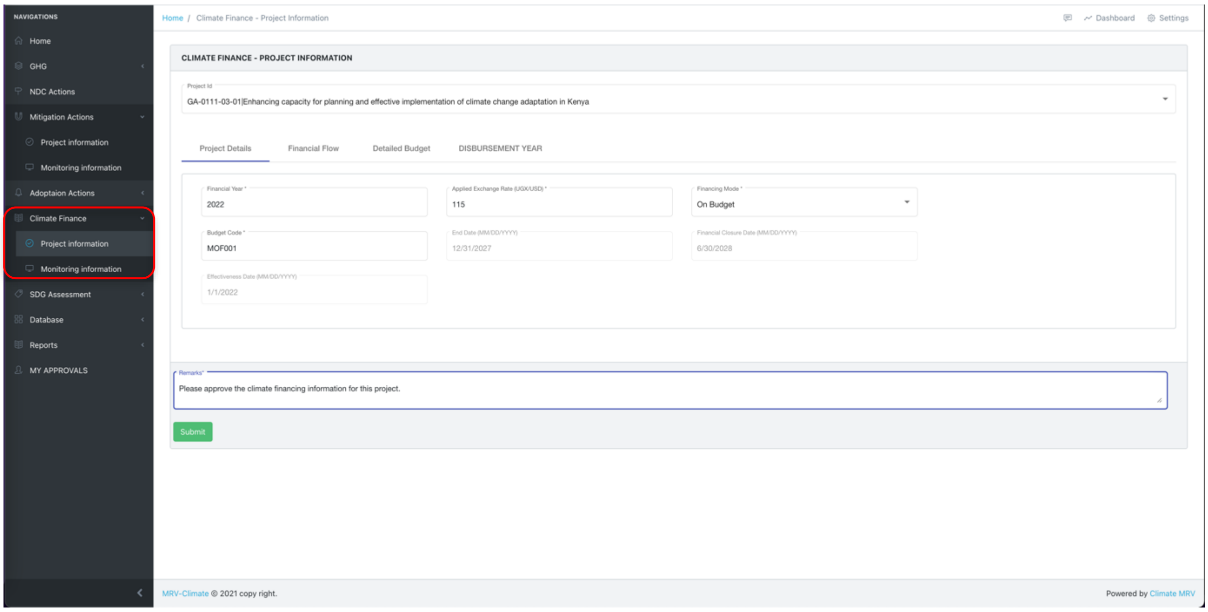
Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the monitoring information

User should submit the project monitoring data using submit button.

7. Climate Finance Module

The Climate Finance Flow Module has been designed to cater both domestic and international Climate Finance Tracking requirements. Climate Finance Flow Tracking Sub-Module can be accessed through the Home Page or Dashboard. On the left-hand side of the Dashboard, you would see the Climate Finance Flow Sub-Module tab which you shall use to navigate the system and access different functionality.

FIGURE 7.1: CLIMATE FINANCE MODULE MENU NAVIGATION

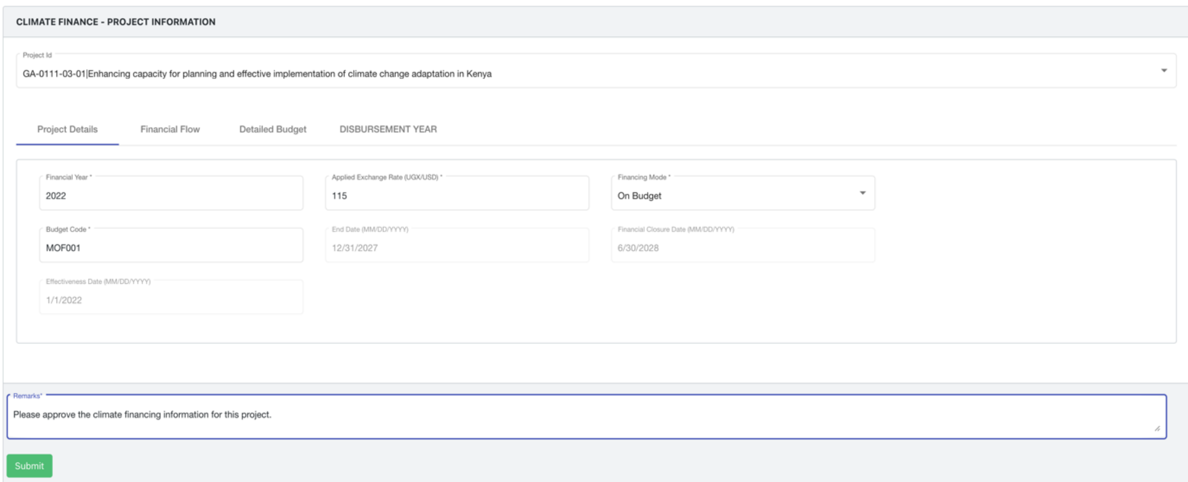


7.1 Climate Finance - Project Information

This sub-module is used to enter the planned financial data related with NDC action/project. This sub-module has four components:

7.1.1 Project Details

FIGURE 7.2: CLIMATE FINANCE PROJECT INFORMATION - PROJECT DETAILS FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Financial Year: Enter value for the financial year. (e.g., 2021 or 2021-22)

Applied Exchange Rate: Enter value for the applicable exchange rate.

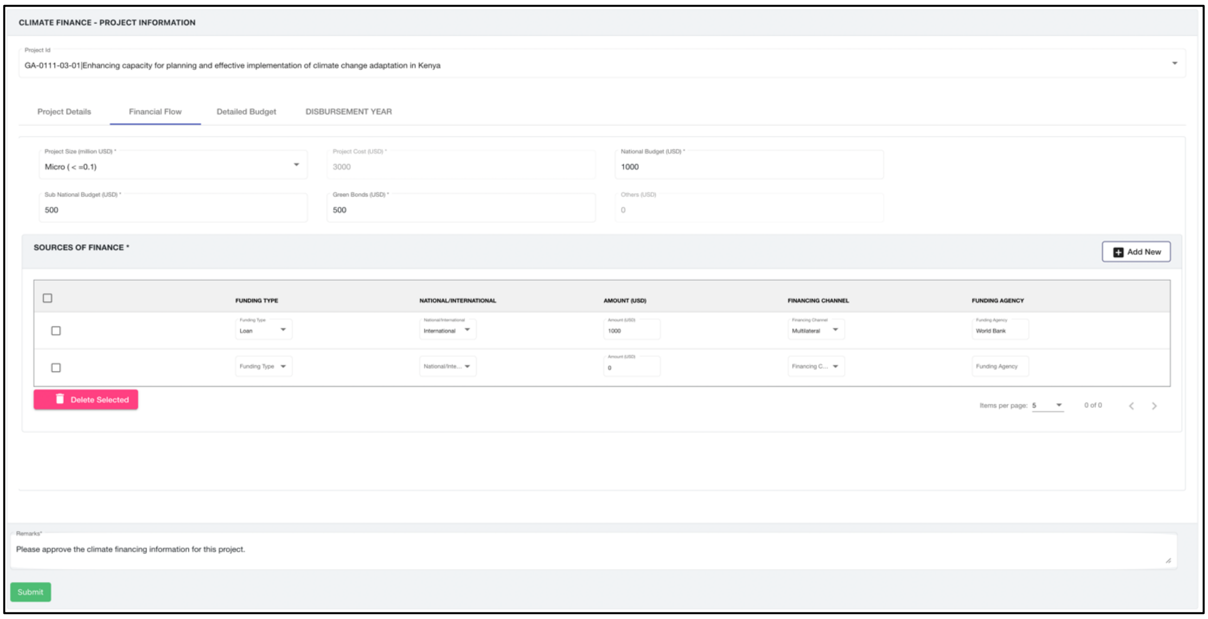
Financing Mode: Select the financing mode from the drop-down list.

Budget Code: Enter the value as per the climate finance budgetary reporting.

Values in End Date, Financial Closure Date and Start Date identifiers will be auto-populated.

7.1.2 Financial Flow

FIGURE 7.3: CLIMATE FINANCE PROJECT INFORMATION - FINANCIAL FLOW FORM



Project Size (million USD): Select the mode based on the project cost from the drop-down list.

Project Cost (USD): It gets auto populated after selection of a project.

National Budget (USD): Enter value for national budget if applicable.

Sub National Budget (USD): Enter value for sub-national budget if applicable.

Green Bonds (USD): Enter value for debt investment (if any) made for the project.

Others (USD): Auto-calculated

Sources of Finance

This section specifically enables users to record finances received from the multiple sources like World Bank, AfDB, EU AID etc. for the successful implementation of climate change project/action in the country.

Add New: Select 'Add New' button to get blank row for inserting financial source information.

Funding Type: Select type of funding for the project from drop-down list.

National/International: Select funding for the project is national/international from drop-down list.

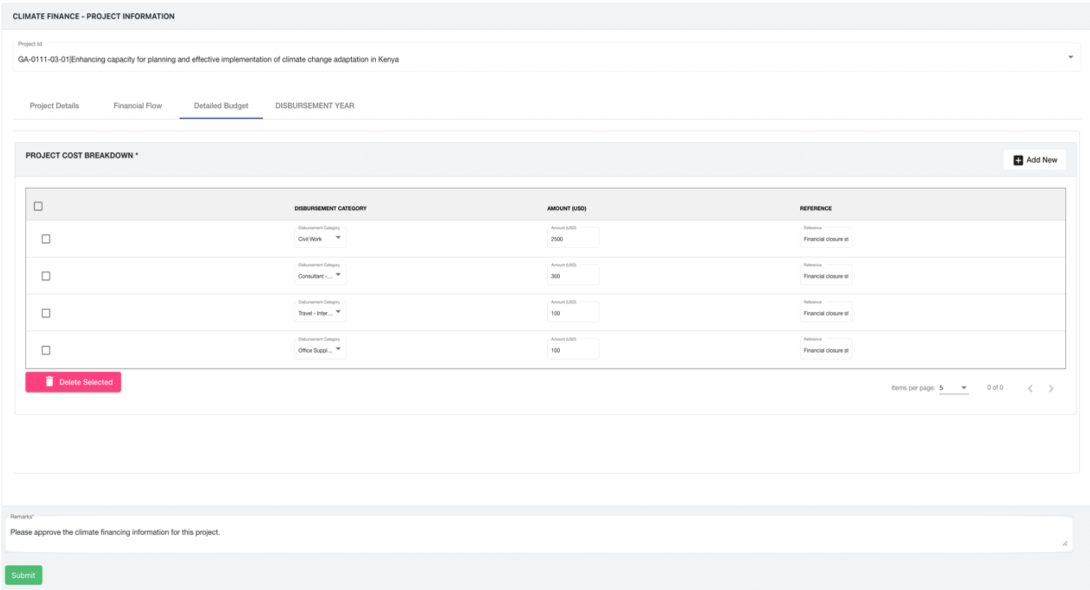
Amount (USD): Enter value for amount funded for the project.

Channel: Select channel for funding of the project from drop-down list.

Funding Agency: Enter name of funding agency for the project.

7.1.3 Detailed Budget

FIGURE 7.4: CLIMATE FINANCE PROJECT INFORMATION - DETAILED BUDGET FORM



Add New: Select 'Add New' button to get blank row for inserting disbursement category information.

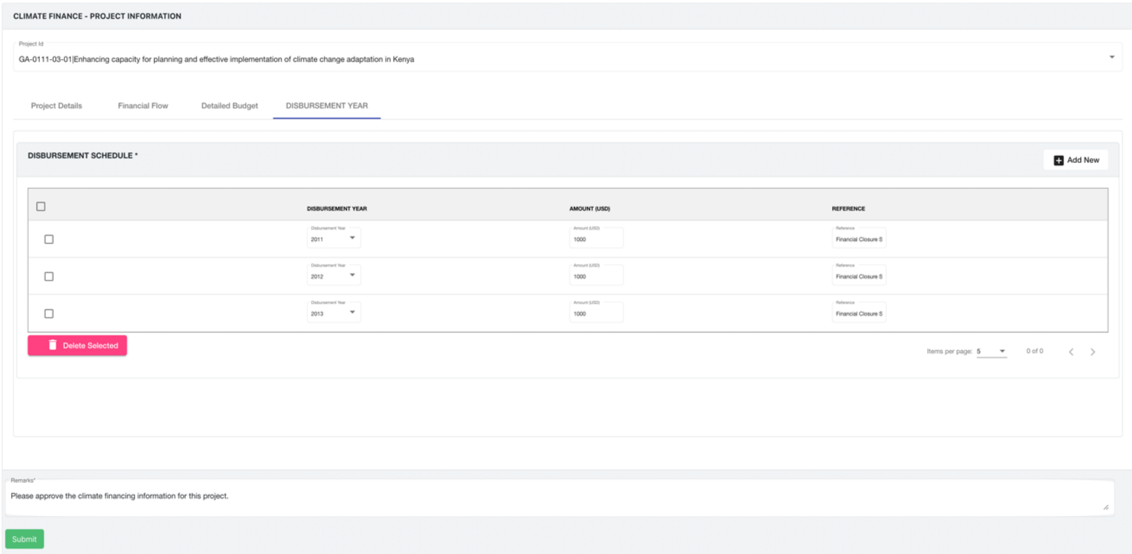
Disbursement Category: Select relevant disbursement category from drop-down list.

Amount (USD): Enter value for amount funded for disbursement category.

Reference: Enter the data source for the costs related to the disbursement category (eg. Financial closure statement)

7.1.4 Disbursement Year

FIGURE 7.5: CLIMATE FINANCE PROJECT INFORMATION - DISBURSEMENT YEAR FORM



Add New: Select 'Add New' button to get blank row for inserting disbursement schedule information.

Disbursement Year: Select disbursement year from drop-down list.

Amount (USD): Enter value for amount disbursed.

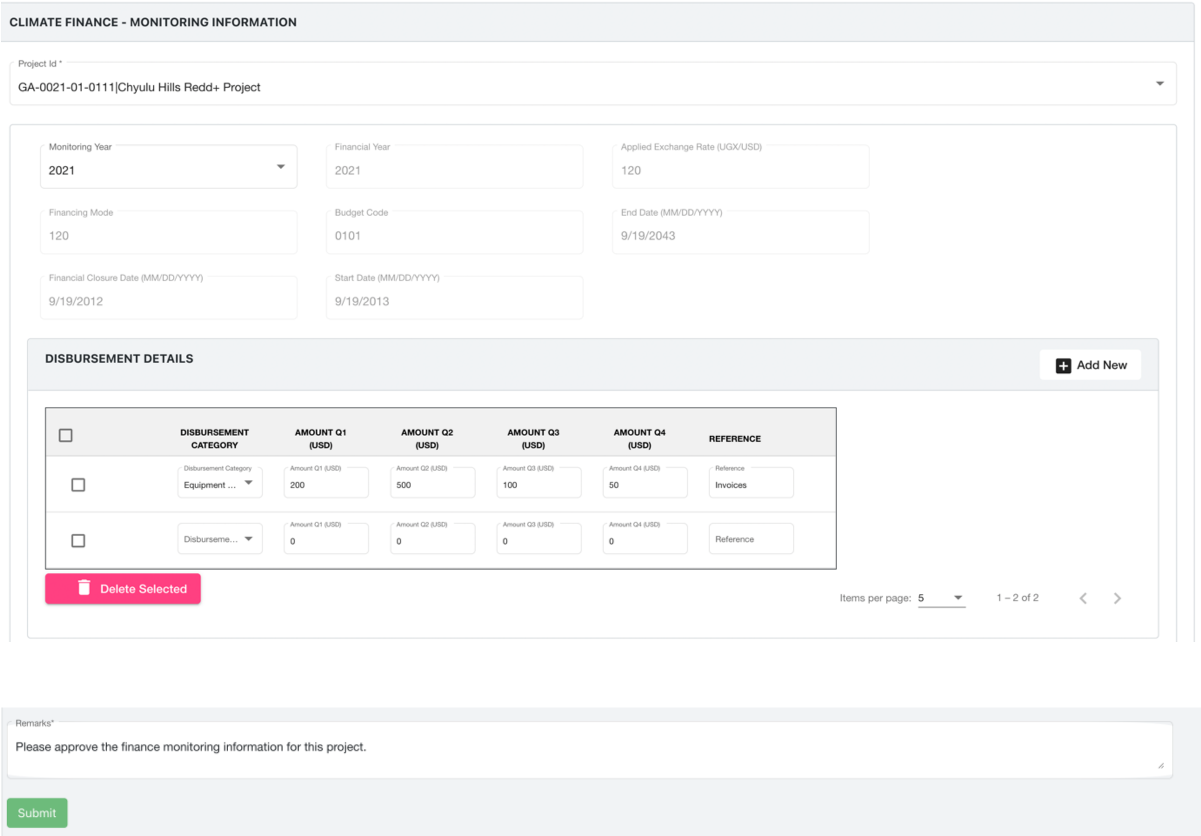
Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the project information

Reference: Enter the data source for the disbursement information of the selected year (eg. Financial closure statement)

User should submit the project information data using submit button.

7.2 Climate Finance - Monitoring Information

FIGURE 7.6: CLIMATE FINANCE MONTIORING INFORMATION FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Monitoring Year: Select monitoring year from drop-down list.

Values in Financial Year, Applied Exchange Rate, Financing Mode, Budget code, End Date, Financial Closure Date and Start Date identifiers will be auto-populated

Add New: Select 'Add New' button to get blank row for inserting disbursement details for disbursement category.

Disbursement Category: Select relevant disbursement category from drop-down list.

Amount (USD): Enter value for disbursed amount under appropriate quarter of monitoring year.

Reference: Enter the data source for the disbursement information of the selected category (eg. invoices)

Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the monitoring information

User should submit the finance monitoring data for the project using submit button.

8. SDG Assessment Module

SDG assessment module has been developed and integrated with this tool to help a broad range of stakeholders in managing the design, development, implementation, financing, measurement, reporting and verification of the various type of actions. This will enable the stakeholders to identify significant impacts, define indicators, quantify impacts and set targets and track the progress of the actions towards the NDCs.

For consistency with internationally accepted definitions, the terminologies used in this tool were aligned with the definitions of the Initiative for Climate Action and Transparency (ICAT): http://www.climateactiontransparency.org/about/ . This tool is based on UNDP CAIT tool https://climateimpact.undp.org/ and uses a bottom-up tool that can be applied to track 'significant, direct impacts' of actions. For more information or clarification on SDGs, please refer the UNDP website: https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

The tool focuses on consolidating the direct impacts resulting from a proposed action. The tool provides the flexibility to the user to define what impact can be considered significant and direct – and is an outcome (short-term or long term, intended or unintended) of the proposed action. The 5 principles below provide the users with a basis for decision making.

Principle	Description
Relevance	Ensure the assessment appropriately reflects the sustainable development impacts of the policy or action and serves the decision-making needs of users and stakeholders, both internal and external to the reporting entity. Applying the principle of relevance depends on the objectives of the assessment, broader policy objectives, national circumstances, and stakeholder priorities.
Completeness	Include all significant impacts in the assessment boundary. Disclose and justify any specific exclusions.
Consistency	Use consistent accounting approaches, data collection methods, and calculation methods to allow for meaningful performance tracking over time. Transparently document any changes to the data, assessment boundary, methods, or any other relevant factors in the time series.
Transparency	Provide clear and complete information for internal and external reviewers to assess the credibility and reliability of the results. Disclose all relevant methods, data sources, calculations, assumptions, and uncertainties. The information should be sufficient to enable a party external to the assessment process to derive the same results if provided with the same source data.
Accuracy	Ensure that the estimated impacts are systematically neither over nor under actual values as far as can be judged and that uncertainties are reduced as far as practicable. Achieve decisions with reasonable confidence as to the integrity of the reported information. Accuracy should be pursued as far as possible, but once uncertainty can no longer be practically reduced, conservative estimates should be used.

Moreover, the tool provides an assessment criterion to decide whether the impact is significant enough to warrant additional information. The significance is based on the following criteria:

- Define the likelihood that an impact will occur; and
- The expected magnitude of each impact.

For likelihood, the tool uses a 5-point scale as below:

Likelihood	Description
Very likely	Reason to believe the effect will happen (or did happen) as a result of the action. (For example, a probability in the range of 90-100%.)
Likely	Reason to believe the effect will probably happen (or probably happened) as a result of the action. (For example, a probability in the range of 66-90%.)
Possible	Reason to believe the effect may or may not happen (or may or may not have happened) as a result of the action. About as likely as not. (For example, a probability in the range of 33-66%.)
Unlikely	Reason to believe the effect will probably not happen (or probably did not happen) as a result of the action. (For example, a probability in the range of 10-33%.)
Very unlikely	Reason to believe the effect will not happen (or did not happen) as a result of the action. (For example, a probability in the range of 0-10%.)

For magnitude, the tool uses a 3-point scale as below:

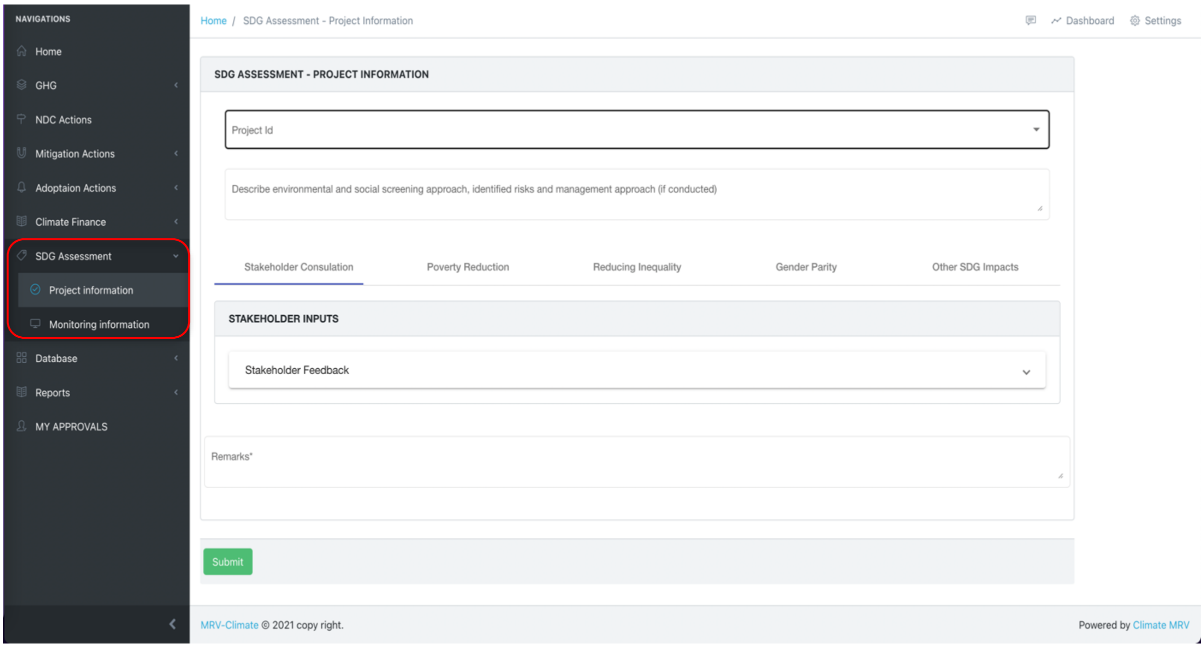
Magnitude	Description
Major	The change in the impact category is likely to be significant in size (either positive or negative).
Moderate	The change in the impact category could be significant in size (either positive or negative).
Minor	The change in the impact category is expected to be insignificant in size (either positive or negative).

Based on the above consideration, the tool then determines whether the impact is significant and will then require the user to provide additional information in the form of a quantitative data (e.g. quantitative targets a basis to track the progress of the implementation of the action through an MRV system).

The Sustainable Development Goals (SDGs) module can be accessed through the Home Page or Dashboard. On the left-hand side of the Dashboard, you would see the SDG

Assessment of the system which you shall use to navigate the system and access different functionality.

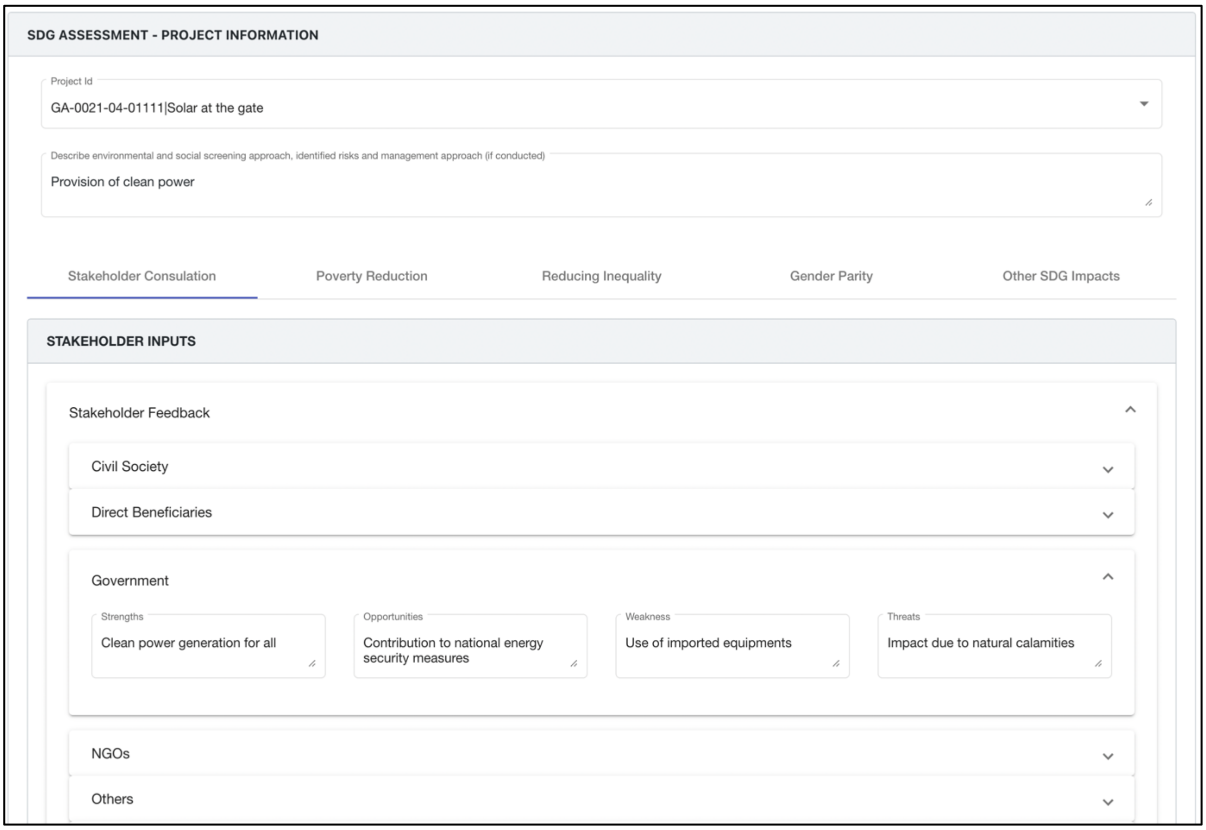
FIGURE 8.1: SDG ASSESSMENT MODULE NAVIGATION FROM HOME SCREEN



8.1 SDG Assessment - Project Information

This sub-module allows user to provide basic project information and baseline/expected SDG benefits for the already created projects. The input screen includes following:

FIGURE 8.2: SDG ASSESSMENT PROJECT INFORMATION FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Describe environmental and social screening approach, identified risks and management approach (if conducted): If Social and environmental risk screening conducted then user should describe screening approach, identified risks, and management approach. (Please refer following weblink for more information on UNDP's Social and Environmental Standards https://www.undp.org/content/undp/en/home/librarypage/operations1/undp-social-and-environmental-standards.html)

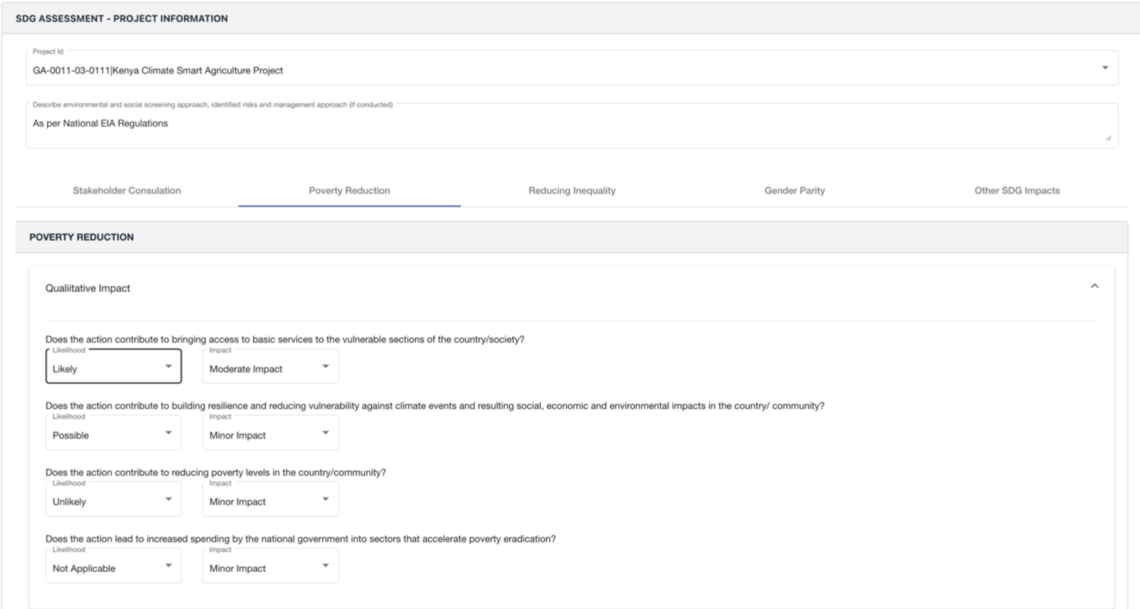
Stakeholder Consultation: Select 'Stakeholder Feedback' to expand the section for various stakeholders. Following stakeholder are included:

- Government
- Private Sector
- NGOs
- Civil Society
- Direct Beneficiaries
- Others

By selecting the stakeholder's name feedback form with four sections viz. Strengths, Opportunities, Weakness and Threats will be displayed for respective stakeholder. User can enter feedback summary in these sections for respective stakeholder.

SDG Benefits

FIGURE 8.3: SDG ASSESSMENT PROJECT INFORMATION - QUALITATIVE IMPACT FORM



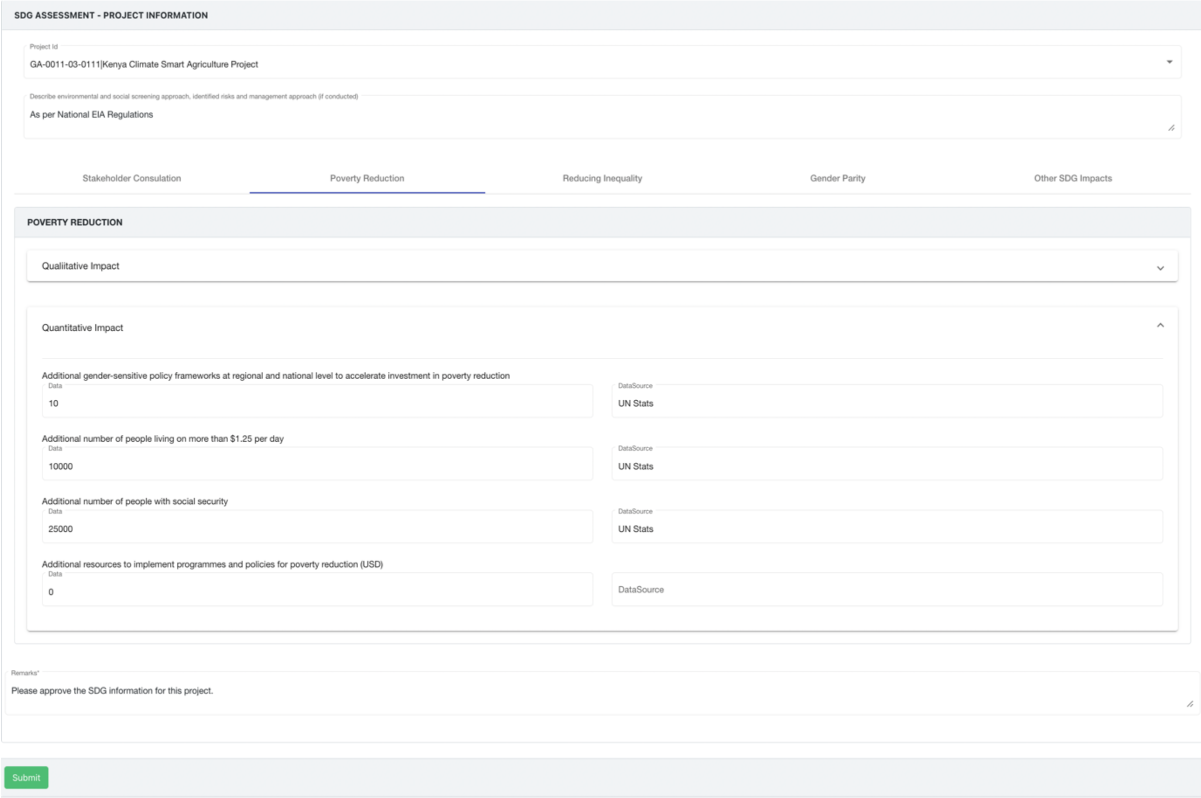
Qualitative Impact: Select 'Qualitative Impact' to expand the section for questionnaire.

Likelihood: Select type of likelihood from the drop-down list for the respective question.

Impact: Select magnitude of impact from the drop-down list for the respective question.

User should select the SDG benefit name tab, so that qualitative assessment form will be displayed for respective SDG benefit.

FIGURE 8.4: SDG ASSESSMENT PROJECT INFORMATION - QUANTITATIVE IMPACT FORM



Quantitative Impact: Select 'Quantitative Impact' to expand the section for assessment.

Data: Enter value for actual data for the respective quantitative assessment.

Data Source: Enter references for data of respective quantitative assessment.

User should select the SDG benefit name tab, so that quantitative assessment form will be displayed for respective SDG benefit.

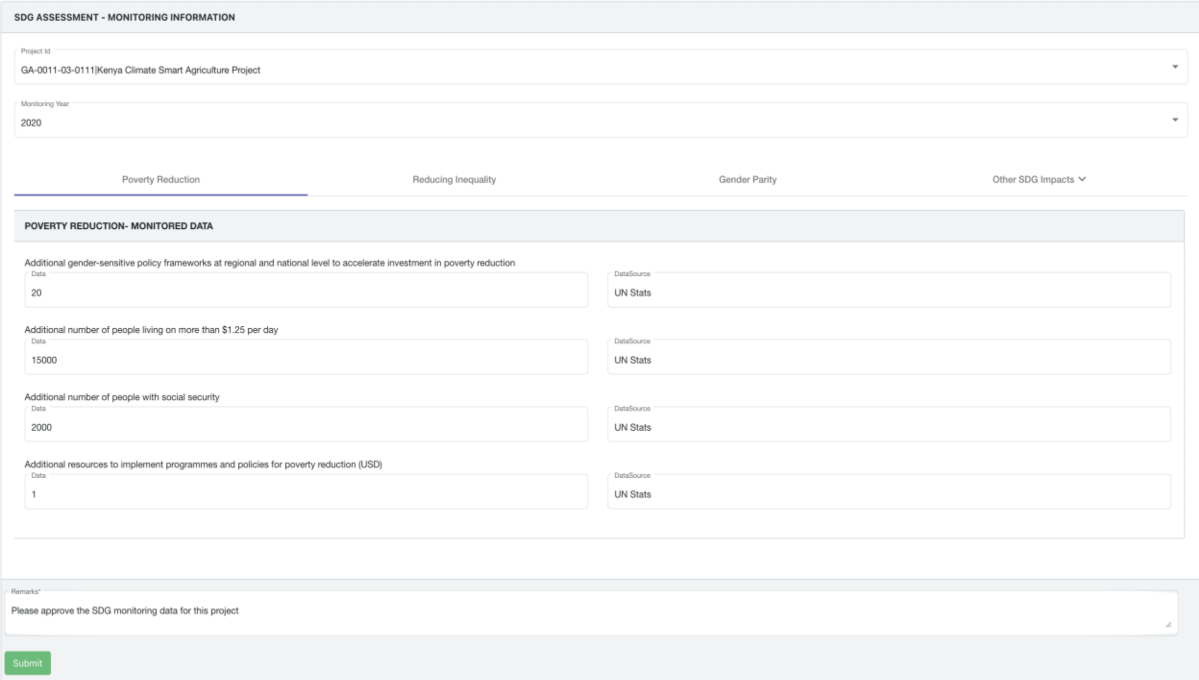
Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the monitoring information

User should submit the project information data using submit button.

8.2 SDG Assessment - Monitoring Information

Once project information submitted, the database file created for each project and monitoring information are being mapped against the project baseline information. Monitoring for the SDG shall be carried out on an annual basis or as situated to the MRV Team. Annual monitoring of the mapped SDG benefits from the climate actions (qualitative and quantitative information) over period of time will be entered by the user in this sub-module. The input screen includes following:

FIGURE 8.5: SDG ASSESSMENT MONITORING INFORMATION FORM



Project Id: Select a project already created and stored in the database from the drop-down list.

Monitoring Year: Select year for which monitoring data is to be submitted from the drop-down list.

Data: Enter value for actual data for the respective quantitative assessment.

Data Source: Enter references for data of respective quantitative assessment.

User should select the SDG benefit name tab, so that quantitative assessment form will be displayed for respective SDG benefit.

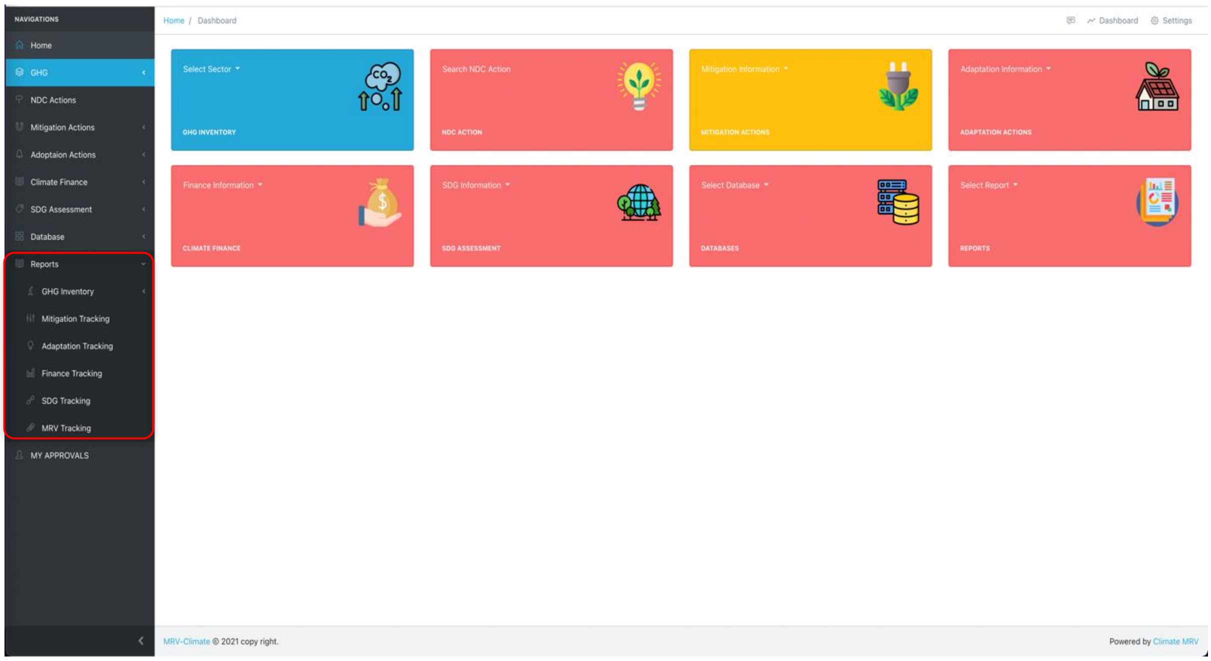
Remarks: Enter any comments/observations necessary for nodal officer to consider while approving/rejecting the monitoring information

User should submit the project monitoring data using submit button.

9. Reports

The integrated MRV Tool has in-built reporting template for sectors and institutions. The reporting templates are designed considering the domestic and international reporting requirements as per ETF.

FIGURE 9.1: REPORTS NAVIGATION FROM HOME SCREEN



9.1 Reports – GHG Inventory

On the left-hand side of the Dashboard, user would see the Reports section in which you shall navigate to GHG Inventory Year wise/Gas wise for accessing the report. User should select year from the drop-down list and click on 'Get Report' to see the Mitigation tracking report for selected year.

FIGURE 9.2: GHG INVENTORY REPORT YEAR WISE - USER INPUT SCREEN

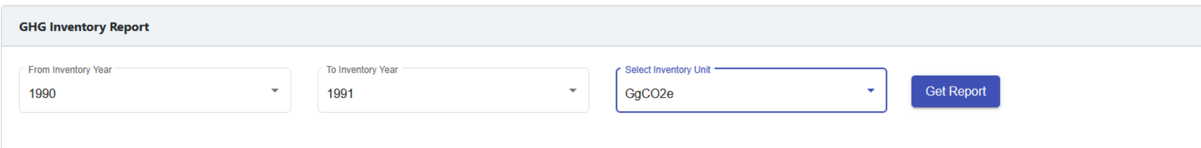
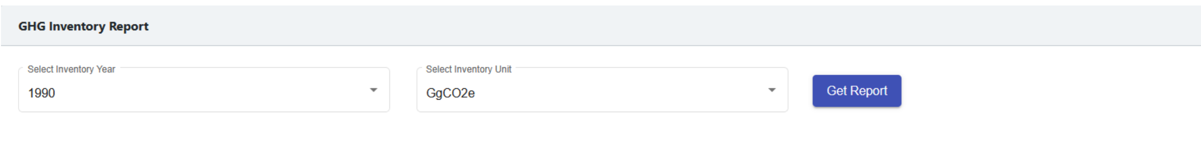


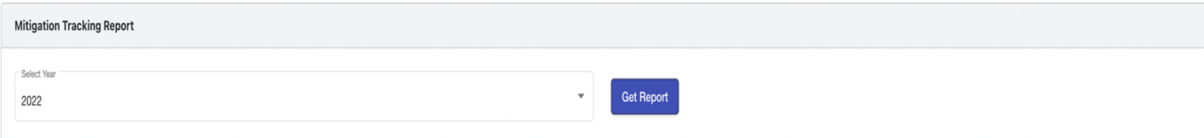
FIGURE 9.3: GHG INVENTORY REPORT GAS WISE - USER INPUT SCREEN



9.2 Reports – Mitigation Tracking

On the left-hand side of the Dashboard, user would see the Reports section in which you shall navigate to Mitigation Tracking for accessing the report. User should select year from the drop-down list and click on 'Get Report' to see the Mitigation tracking report for selected year.

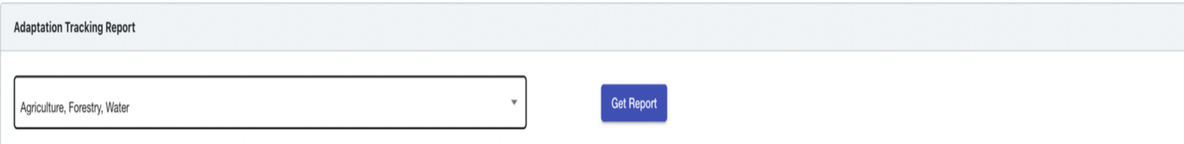
FIGURE 9.4: MITIGATION ACTION TRACKING REPORT - USER INPUT SCREEN



9.3 Reports – Adaptation Tracking

On the left-hand side of the Dashboard, user would see the Reports section in which you shall navigate to Adaptation Tracking for accessing the report. User should select category from the drop-down list and click on 'Get Report' to see the Adaptation tracking report for selected category.

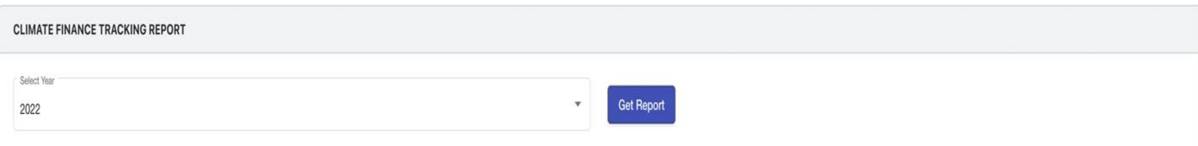
FIGURE 9.5: ADAPTATION TRACKING REPORT - USER INPUT SCREEN



9.4 Reports – Finance Tracking

This functionality is used to generate Finance tracking reports. On the left-hand side of the Dashboard, you would see the Reports section in which you shall navigate to Finance Tracking for accessing the report. User should select year from the drop-down list and click on 'Get Report' to see the Finance tracking report for selected year.

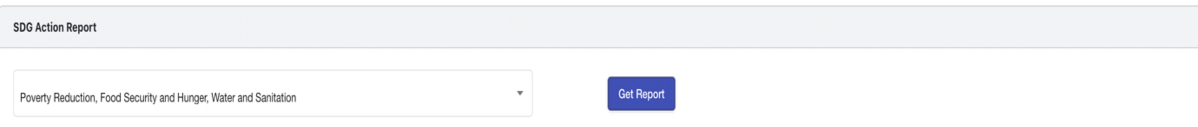
FIGURE 9.6: CLIMATE FINANCE TRACKING REPORT - USER INPUT SCREEN



9.5 Reports – SDG Tracking

On the left-hand side of the Dashboard, you would see the Reports section in which you shall navigate to SDG Tracking for accessing the report. User should select category from the drop-down list and click on 'Get Report' to see the SDG tracking report for selected category.

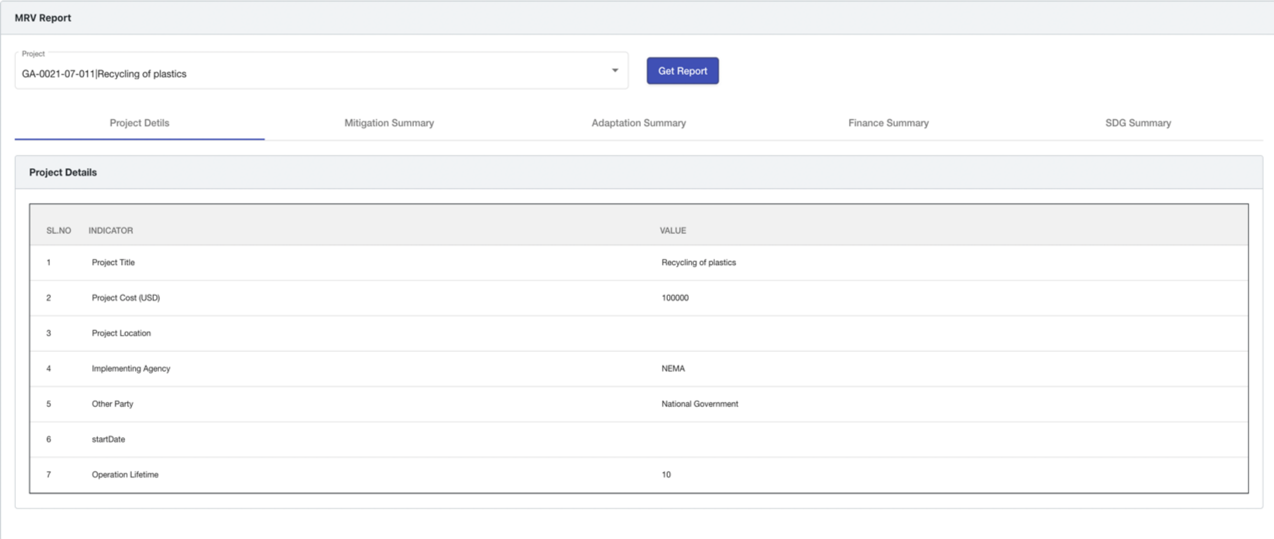
FIGURE 9.7: SDG TRACKING REPORT - USER INPUT SCREEN



9.6 Reports – MRV Tracking

On the left-hand side of the Dashboard, you would see the Reports section in which you shall navigate to MRV Tracking for accessing the report. User should select project from the drop-down list and select 'Get Report' to see the MRV tracking report of the project. This includes basic project details, mitigation summary for mitigation project, adaptation summary for adaptation project, finance summary and SDG summary.

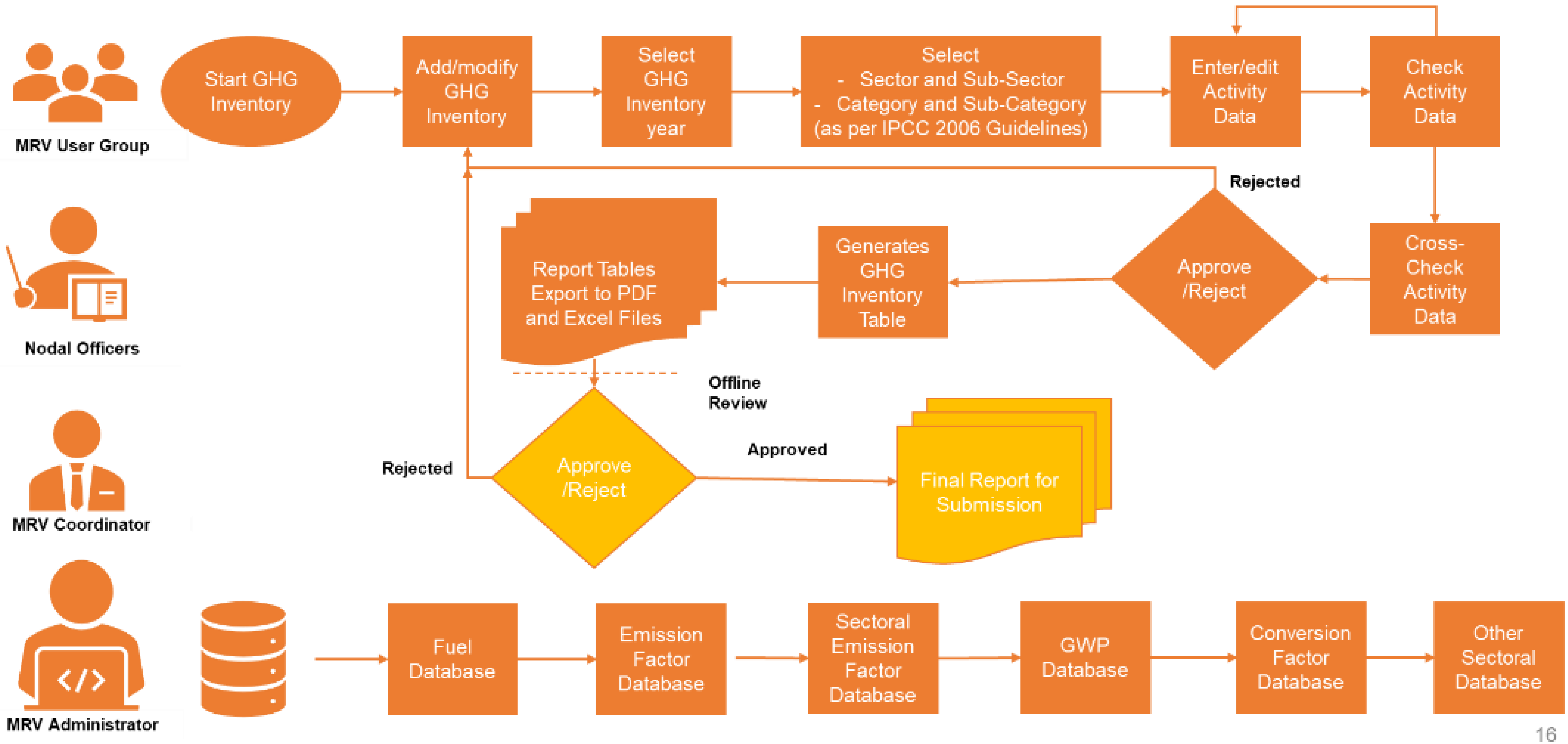
FIGURE 9.8: MRV REPORT - USER INPUT SCREEN



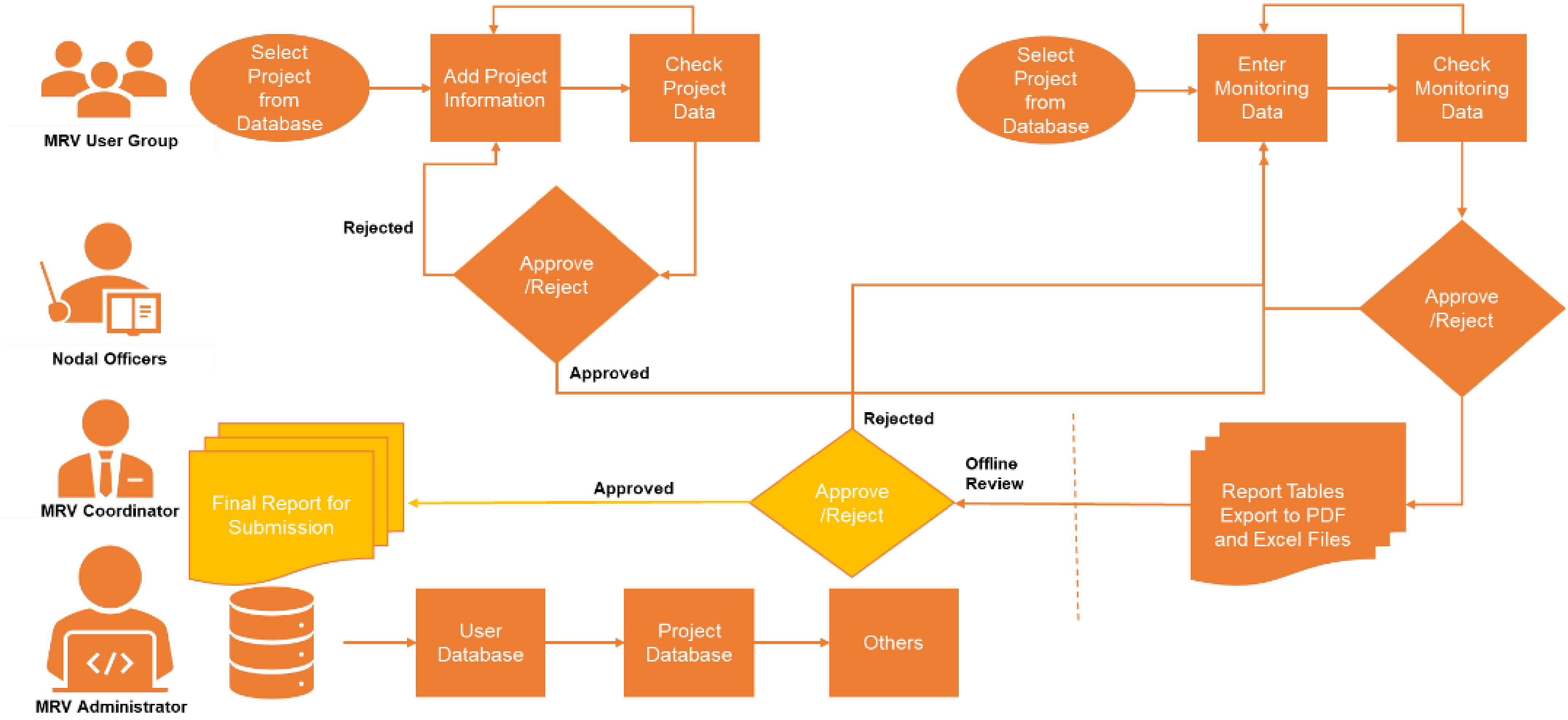
SL.NO	INDICATOR	VALUE
1	Project Title	Recycling of plastics
2	Project Cost (USD)	100000
3	Project Location	
4	Implementing Agency	NEMA
5	Other Party	National Government
6	startDate	
7	Operation Lifetime	10

In all the above report sections, by clicking on 'Export' user can download report in CSV/PDF format.

MRV Tool – GHG Inventory Workflow (Illustrative)



MRV Tool – Climate Action Modules Workflow (Illustrative)



Contact Us

For more information or clarification, please write to Subbarao Consulting Services (SCS) Ltd.

At:

Subbarao Consulting Services (SCS) Ltd.

229 Highcliff Road, Shiel Hill, Dunedin 9013, New Zealand

Tel: +64 3 4544775; Mobile: +64 211638635

E-Mail: srikanth@subbaraoconsulting.com