Department of Climate Change
Federal Ministry of Environment

Report on Lessons Learnt

Initiative for Climate Action Transparency (ICAT) – Consultancy Project(s) Capacity Building on application of Measure, Report and Verify (MRV) Greenhouse Gas (GHG) Emissions for Mitigating the Impact of Climate Change in Nigeria

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ICAT Initiative for Climate Action Transparency

CITEPA

ghg management institute

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PREPARED UNDER

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Abbreviations

AD	Activity Data
AFOLU	Agriculture, Forestry and Other Land Use
BTR	Biennial Transparency Report
BUR	Biennial Update Report
CSOs	Civil Society Organizations
DBMS	Database Management System
DCC	Department of Climate Change
DSA	Data Sharing Agreement
EF	Emission Factors
ETF	Enhanced Transparency Framework
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FGN	Federal Government of Nigeria
FMEnv	Federal Ministry of Environment
FMoA	Federal Ministry of Aviation
FMoT	Federal Ministry of Transport
GHG	Greenhouse Gas
ICAT	Initiative for Climate Action Transparency
IMS	Inventory Management System
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
LNG	Liquefied Natural Gas
LULUCF	Land Use, Land Use Change and Forestry
MDAs	Ministries, Departments and Agencies
MRV	Measurement, Reporting and Verification
NASRDA	National Space Research and Development Agency
NC	National Communication
NDC	Nationally Determined Contribution
NBS	National Bureau of Statistics
NGO	Non-Governmental Organization
NPC	National Population Council
O&G	Oil and Gas

OTS	Other Transport Sector (Rail, Aviation, Inland Waterways and Maritime)
PSP	Private Sector Participation
QA	Quality Assurance
QC	Quality Control
REDD++	Reducing Emissions from Deforestation and Forest Degradation
RTS	Road Transport Sector
SDGs	Sustainable Development Goals
SWOT	Strengths, Weaknesses, Opportunities and Threats
TACCC	Transparency, Accuracy, Completeness, Consistency and Comparability
TOR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services

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Executive Summary

The Initiative for Climate Actions Transparency (ICAT) project in Nigeria anchored by the Federal Ministry of Environment (FMEnv) through the Department of Climate Change (DCC) was initiated to help Nigeria assess the impacts of its climate policies and actions by developing a robust Measurement, Reporting and Verification (MRV) system that will assist the country in fulfilling its Nationally Determined Contributions (NDC) commitments in line with the requirement of the Paris Agreement.

The project brought together MRV experts and stakeholders from the focused sectors; Oil and Gas (O&G), Transport including Road and other transport (maritime, rail and aviation) and AFOLU.

The project commenced with an inception workshop comprising the relevant stakeholders from the various sectors. During the phase of the project implementation period, the following activities were carried out:

- Analysis and review of the existing focused sector's MRV, with the goal to identify the needs and gaps
- Development of MRV framework for the focused sectors
- Development of an overarching institutional arrangement
- Assessment of policies and measures across the focused sector to aid in the development of NDC indicators required to track Nigeria progress in the implementation of its NDC target.

Key Highlights of Lessons Learnt

Based on the work carried out by the national consultants in collaboration with the international consultants and the DCC, the following were lessons learnt during the implementation of the project. These lessons cut across all the focused sectors.

- The inception workshop was vital to sensitizing stakeholders, and to discuss in detail the project activities and necessary steps to be taken for the implementation of project.
- Early involvement of sector stakeholders facilitated good cooperation which was maintained throughout the implementation of the project.
- Engaging sector MRV experts in capacity building workshops played a key role in enhancing knowledge transfer among the relevant stakeholders.
- Building on existing national arrangements was imperatively effective in developing the MRV system.

Highlighted below are Lessons Learnt during this project that are considered important for the future.

- There is a need for a legal institutional framework to ensure an effective institutional arrangement.
- There is a need to expand the existing institutional mandates to accommodate a wider coverage for MRV needs thus enhancing a smooth operation of the MRV system.
- It is important to identify and develop the competence of the sectoral focal point and the key data suppliers to sustain the MRV Process.

- Institutions to be involved in the MRV process will need a clear understanding of how their activities contribute to enhancing the MRV process.
- Local experts and agencies can provide valuable opinions and contextual analysis, giving cognizance to confidentiality, and they are not quoted directly

Major Achievements of the Project

Some of the key achievements from the ICAT project initiative includes,

- **Identification and Engagement of Relevant Sector Stakeholders:** The process of identifying and engaging sector stakeholders ensured that all stakeholders are included in the MRV process. This process has also helped to define the various responsibilities of the stakeholders required to keep a functional MRV system. Among many other responsibilities, the stakeholders are to be involved in data collection, reconciliation, and verification processes.

- **Identification of Needs and Gaps:** it was important to conduct the need and gap analysis to identify the challenges of the sector proffering ways to address them. The outcome of the analysis included some of the following: Inadequate Institutional arrangement; which was addressed by proposing a robust institutional arrangement, lack of technical knowledge of MRV systems; which was addressed by enhanced capacity building, and the data and technology issues; which the proposed institutional arrangement and capacity building process are expected to address.

- **A Proposed Institutional Arrangements:** The proposed institutional arrangement was designed to aid the accomplishment of the country's climate goals and targets and ensures that the responsible stakeholders take up their roles, to effectively track and monitor progress across the various sectors. The proposed institutional arrangement was structured to capture and address issues on relevant data flow, expertise, organizations and the role and responsibility of the stakeholders in the MRV system.

- **Review of Policies and Measures to develop NDC indicators to track progress:** this is considered a key success as the reviewed policies and the developed indicators will serve as a benchmark to help track progress on the NDC targets.

- **Capacity Building:** This process was considered an important aspect of the project, as it brought together all stakeholders for enhancement. The capacity building process involved continuous stakeholders' engagements (formally and informally) through technical virtual meetings and consultative workshops. It was recommended by the stakeholders that this process should be carried out periodically for continuous improvement of skills and knowledge of the sector stakeholders after the life of this project where possible. It is important to mention that the stakeholders made valuable inputs in the development and validation of the various project deliverables.

Challenges Encountered

Some of the challenges encountered during the project includes.

- Project inauguration delay due to impact of CoVID-19. This led to a delay in conducting the physical inception workshop. However, work continued as virtual meetings were conducted for other deliverables until cases were under control and physical meeting were allowed.
- Lack of extensive stakeholder consultation systems for gathering information and data. While there are several stakeholders within the sector, the distributed nature of these economic activities, limited institutional and human capacity, as well as private sector engagement, are a few of the principal challenges in improving the overall MRV system.
- Clearly defined roles and responsibilities of the stakeholders are currently non-existent and those who are aware of them do not have access to the appropriate tools and technologies for data and information collection.
- Relevant ministries and departments have other priorities and limited human and financial capacities to redirect their focus on climate change data and information gathering systems
- There are no dedicated staff or positions in all relevant Government departments planned and tasked with this responsibility. Activities, such as the National Communications (NCs) and Biennial Update Report (BUR), are currently conducted on an ad-hoc basis with funding from external agencies.
- The existing Government systems for data and information sharing are not adequate, as they happen through hierarchical procedures and are not often at the speed that enables smooth and quick preparation of GHG inventory considering the annual cycle of the inventory process.
- Data and information collection templates must be improved and understood not just by the key coordinating agencies or first-line ministries, but also by the sub-national institutions and primary data providers.
- Issues of data retention, security and retrieval are not addressed, as the country lacks a dedicated GHG management system.
- Lack of country-specific emission factors as default emission factor has been applied for inventory reporting in most sectors, which is accompanied by a high level of uncertainty.

Recommendations

The following recommendations will further enhance operationalizing the MRV framework in the country; the recommendations are drawn based on the lessons learnt during the project implementation. They include but are not limited to:

- Improving the existing Institutional arrangement will need a legislative institutional framework to guide its implementation.
- Some sector stakeholders already have a framework that supports compliance in terms of data collection and transmission to the institution collating the data on behalf of the government, thus, this needs to be further enhanced.
- There should be a nexus between stakeholders, policy makers and country focal points on climate issues in the country especially in policies implementation. This is necessary to reduce complexities especially as it relates to data collation, reporting and coordination.
- The Federal Government through the DCC will need to arrange training programmes for all stakeholders periodically to keep them informed with updates on international industry practices and requirements.

- Climate financing plans need to be mainstreamed into the annual budgeting process to ensure climate actions (mitigation and adaptation) are supported.
- There is a need to continuously engage all sectoral stakeholders on the need for continuous data improvement.
- The Government should ensure that national Consultants, QA/QC experts and Researchers/Academics are an integral part of the MRV process to enhance the quality of output.
- There is a need for a GHG management system that will house all data for the purpose of reporting.

Furthermore, this project has supported Nigeria's ambition to build adequate capacity in the development of a sustainable MRV system especially in the priority sectors that will enhance the country's ability to measure the performance of targeted climate policies and actions across the various NDC sectors. The robust MRV system when adopted and becomes fully functional will allow for coordinated tracking of progress towards GHG emission reduction targets.

1.1 Introduction

Nigeria has huge capacities (technical, human, financial, managerial resources) to design and operationalize its domestic MRV System to address the threats, impacts and vulnerabilities to Climate Change. Experience has shown that although these capacities exist, there are yet to be fully developed for effective MRV system for both GHG inventory and mitigation. However, the needs to ensure that MRV system is operationalized in the focused sectors resulted in the commissioning of this project.

To achieve the initiative, the FMEnv, DCC supported by ICAT engaged national consultants to help build capacities to understand and apply relevant tools to MRV (GHG) emissions and the impact of mitigation actions, as well as to develop a national institutional arrangements and processes for MRV policies and actions.

ICAT is an international, multi-stakeholder partnership of the United Nations Office for Project Services (UNOPS) that provides management and support services through the ICAT Secretariat. ICAT is funded to respond to the critical need for improved transparency and capacity building for evidence-based policymaking on climate change, particularly measuring progress made by countries towards achieving the targets they have set out in their NDCs.

This project aims to create an enabling environment (such as functional, strong Institutional Arrangements) at sectoral and national levels, to implement the Convention, as well as establish a good National Reporting System in line with the Paris Agreement ETF Reporting System.

Based on the activities carried out by the national consultants with multi-sectoral stakeholders' engagement and support from the international consultants, everything seems set to achieve an effective and sustainable MRV system. Capacity has now been built within the DCC in the FMEnv, which is the National Focal Point (in Nigeria), among the sectoral experts and other relevant stakeholders. Efforts has also been put in place to ensure that a legal framework is developed which will provide the necessary enabling environment for implementing the MRV system in the country.

This report is focused on providing information on the various activities carried out during the project with the goal to highlight the key achievements and lessons learnt during the project implementation.

1.1 Scope and Objective of the ICAT Project

The scope of the ICAT project covered three-priority sectors (representing five sub-sectors) from the seven identified by Nigeria: Oil and Gas (O&G) sector, Transport (Road Transport and other transportation modes) and AFOLU (Agriculture and Land Use, Land Use Change and Forestry (LULUCF)). To officially kick off the project activities, stakeholders were drawn from the various priority sectors to participate in the inception workshop to formally kick off the project activities and to discuss the methods that would be deployed during the project lifetime. The stakeholders were drawn from the different Ministries, Departments and Agencies (MDAs) at Federal and State levels, public and private organizations and enterprises, non-governmental organizations (NGOs), etc.

The focus of the project was to implement the sectoral MRV systems in the country with the specific objectives to:

- Carry out a review of the sectors in terms of Greenhouse Gas (GHG) inventory and mitigation actions (actors involved, availability of data, Quality Assurance (QA)/Quality Control (QC), Tools and achieving systems, MRV capacity in the country, etc.).
- Provide inputs to an internal Reporting Scheme geared towards developing the national overarching institutional setup which is needed to clarify how stakeholders could share data.
- Develop an overarching institutional arrangement with recommendations for national reporting system and design.
- Assess Policies and Measures to develop NDC indicators/tools. ICAT methodologies available for Transport, Agriculture and Forestry was to be applied if corresponding to national P&M.
- Organize various capacity-building workshops to ensure the relevant stakeholders are actively involved in the setup of the MRV process.

The expectation from the above objectives is to improve Nigeria's ambition towards ensuring transparency and effective reporting structure. This is closely related to National GHG Inventory and mitigation actions especially as the country works towards implementing its NDC.

1.2 Report Structure

This section outlines the different subject matters to be discussed in the various section of this report. The report is divided into five (5) sections:

Section 1: Focus on the general introduction, scope, and objectives of the ICAT project, structure of the project report and the project coordination.

Section 2: Focus on the key achievements attained during the project life in the various priority sectors.

Section 3: Focus on the project challenges and the measures deployed by the sector consultant to provide solutions to these challenges.

Section 4: Highlights the lessons learnt from each sector during the different phases of the project life.

Section 5: Conclusion.

1.3 Project Coordination

The Director, DCC was responsible for coordinating the Project through the Project Steering Committee whose membership cuts across nominated Senior Staff from relevant Units of the DCC, supported by the In-Country Facilitator supervising activities of the Project Consultants towards timely delivery of their Terms of Reference (TOR). Technical support was also provided by the ICAT International Consultants

The Project Steering Committee performed the following activities among others:

- Met regularly to give direction on the design, implementation and evaluation of the progress made on the ICAT Project.
- Recommended strategies and provided technical support, expert advice and political guidance based on knowledge and experience to the ICAT Project Consultants.

- Coordinated and identified synergies amongst the different ICAT Project Consultants and the Key Project Stakeholders.
- Responsible for Coordinating, Hosting and Reporting on National Stakeholder Workshops (Inauguration/kickoff Workshop, Presentation Workshops and Validation/Adoption Workshop).

The Project Facilitator's responsibility included the following:

- Facilitated and coordinated the implementation of the project on a day-to-day basis, including supervision of activities of the Steering Committee and the 5 national Project Consultants, while also liaising with the ICAT international consultant and the Steering Committee.

While the National Consultants performed the following activities:

- Reported to the DCC Steering Committee under the supervision of the In-Country Facilitator.
- Developed and submitted output report to the lead consultant as at when due.
- Conducted capacity building for stakeholders in the respective sectors.
- The Lead Consultant (O&G Sector consultant) among many other duties supported the Federal Government of Nigeria (FGN) in,
    - The development and implementation of the ICAT work plan and ensure timely delivery of outputs; established a detailed work plan and schedule validated by the DCC, Project Steering Committee and the ICAT Project Team.
    - Proposed a list of structures to consult, which can be supplemented, if necessary, by the project team.
    - Conducted all consultations with key stakeholders (government, private sector, other institutions, and entities in the O&G industry).
    - Delivered outputs were timely as stated in the Workplan.

1.3.1 Team of Consultants

Table 2 below presents the team of consultants for the project while Table 3 presents the details of other project participants.

Table 1: International ICAT Team

S/N	ORGANIZATION	NAME	OTHER TEAM MEMBERS
1	Citepa	Julien Vincent, Manager, Senior MRV Expert	Etienne Mathias, Manager, Senior Expert MRV, AFOLU Expert
2	GHGMI	Mike Bess, Technical Advisor and, senior MRV and Climate Change Expert	Jerry Seager, Director, Programs.

Table 2: National Project Consultants

S/N	ORGANIZATION	PRIMARY CONTACT
1	In-country Project Facilitator/Coordinator	Dr. Bala Bappa
2	Lead Project Consultant and as the National Consultant for Oil and Gas sector	Engr. James Ogunleye
3	National Project Consultant (Road Transport)	Mr. Kazeem Sanusi
4	National Project Consultant (Other transportation (Aviation, Railways, Marine, etc.)	Mr. Olusola Ogunsegun
5	National Project Consultant (LULUCF)	Mr. Stanley Ijeoma
6	National Project Consultant (Agriculture (Livestock and Crops))	Mr. Agbo Chinonso

Table 3: Other Project Participants

S/N	ORGANIZATION	PRIMARY CONTACT	OTHER TEAM MEMBERS
1	Institutional partner DCC, Federal Ministry of Environment (FMEnv)	Haj. Halima Bawa Bwari, Director-DCC Asmau Jibril Head of Mitigation Division, DCC	

2.0 Key Achievement

This section presents highlights of the key project successes achieved within the various sectors during the implementation of the project activity.

2.1 Oil and Gas Sector

The O&G sector is a significant sector of the Nigerian Economy as it accounts for over half of the total percentage of federally collected revenue in the country. As of 2018, the sector holds the largest natural gas reserves on the continent and was the world's fifth-largest exporter of liquefied natural gas (LNG). Based on estimates in the same year, the sector owns proven crude oil reserves of about 36 billion barrels which put the country as the second-largest reserve in Africa after Libya, and the tenth largest in the world behind the United States.

Oil productions in the sector are from a total number of two hundred and thirty-two (232) producing fields from forty-seven (47) oil-producing companies. In total, there are about two thousand, six hundred and sixteen (2,616) wells producing from two thousand, nine hundred and thirty-nine (2,939) strings, with Mobil, Star deep and Chevron as the major contributors to crude production as of 2018.

Despite the rich endowments, the sector has been faced with political, technical, technological and data flow challenges among others; however, there have been continuous efforts through various initiatives to close the gaps thereby bringing the sector up to speed in line with best practices. The ICAT project initiative presented an opportunity to address some of these challenges.

During the ICAT project, some key achievements were recorded. Some of these achievements include but are not limited to:

- **Identification and Engagement of Relevant Sector Stakeholders:** The process of identifying and engaging sector stakeholders ensured that all stakeholders are included in the MRV process. This process has also helped to define the various responsibilities of the stakeholders to keep a functional MRV system. Among many other responsibilities, the stakeholders are to be involved in data collection, reconciliation, and verification processes.

- **Identification of O&G Needs and Gaps:** The O&G sector is a key priority sector in the country; therefore, it was important to conduct the need and gap analysis to identify the challenges of the sector and proffer ways to address them. The outcome of the analysis includes some of the following: inadequate Institutional arrangement which was addressed by proposing a robust institutional arrangement; lack of technical knowledge of a functional MRV system which was addressed by enhanced capacity building, Data and Technology Issues which the proposed institutional arrangement and capacity building process are expected to have addressed.

- **A Proposed Sectoral Institutional Arrangements:** The proposed institutional arrangement was designed to aid the accomplishment of the country's climate goals and targets and ensure that responsible stakeholders are saddled with the responsibility to effectively track and monitor progress across the various sector. The proposed institutional arrangement was structured to capture and address issues on relevant data flow, expertise, organizations and the role and responsibility of the stakeholders in the MRV system.

- **Capacity Building:** This process was considered a critical role in the course of the project as all Stakeholders needed to be involved in a continuous capacity building process. The capacity building process took the form of continuous stakeholders' engagements (formally and informally), with technical virtual meetings and consultative workshops. It has been recommended that this process be carried out periodically to continue improving the skills and knowledge of the sector stakeholders after the life of this project where possible. It is important to mention that the stakeholders made valuable inputs in the development and validation of the various project deliverables.

- **Review of Policies and Measures to develop NDC indicators to track progress:** this is considered a key success as the reviewed policies and the developed indicators will serve as a benchmark to help track progress on the NDC targets.

2.2 Road Transport Sector

The Nigeria-ICAT project is considered an all-important project and "a stitch in time" for the entire Transport Sector, especially the Road Transport Sector (RTS) due to the long-lasting epileptic state of the sector. The RTS is considered one of the uncoordinated sectors in terms of GHG data collection and reporting and with a weak institutional arrangement. However, this project presented a huge opportunity to set up a framework that would put in place measures to develop a robust reporting system (Measurement, Reporting and Verification-MRV) and an institutional arrangement that would enable good GHG data collection and reporting. The MRV framework is expected to increase and enhance transparency in reporting mitigation efforts and the development of GHG inventories in the RTS. It will also improve transport planning, implementation, provide data and information that fits the reporting requirements of the Paris Agreement enabling the RTS to meet up with international standards.

Below are some of the achievements of the RTS while implementing the various activities of the Nigerian- ICAT project.

- **Stakeholders' Identification and Engagement:** the weak institutional arrangement that has existed in the RTS has over time made it difficult to identify and engage with the sector's stakeholders, however, through this project, stakeholders in the sector have been identified and can now be easily engaged.

- **Capacity Building:** Building the capacity of all stakeholders involved in setting up the MRV process was key. This process has enabled the stakeholders to appreciate the process of setting up an MRV framework for the sector while also enabling the participation and contributions of the stakeholders (In key decisions such as who should be responsible for data collection and who should the collected data be submitted to). The capacity building took the form of formal and informal engagements with the stakeholders through meetings and workshops using PowerPoint presentations aimed at sensitizing the stakeholders on the MRV concepts and defining the responsibilities of the stakeholders/institutions to enhance the achievement of a functional MRV process.

- **Institutional Arrangement:** Another achievement recorded by the RTS is the proposed Institutional arrangement for the sector. The identified existing institutional arrangement is not clearly defined and therefore does not have the capacity to achieve a robust MRV process. This is now addressed as the RTS now has a robust institutional arrangement that considers all the relevant institutions and stakeholders while also defining their responsibilities. It is believed that when the proposed institutional arrangement becomes implemented and functional, it will propel the RTS into achieving a transparent reporting system that is in line with the requirements of the Paris Agreement.

- **Needs and Gaps Analysis:** the challenges of the RTS cannot be overemphasized. However, conducting the needs and gaps analysis to clearly understand what the specific challenge of the sector is a key achievement. The analysis will provide the right information that would be useful to stakeholders, decisionmakers and the policymakers in the process of decision making.

- **Indicators to track Policies and Measures:** The Nigeria Transport sector is still anticipating its first transport policy since independence. The sector only has "statements" and policies in draft form. The drafted policies and statements were reviewed (both at the national and sub-national level) to select indicators that can be used to track the NDC mitigation actions presented in the 2021 NDC document submitted to the UNFCCC. It should be mentioned that the reviewed draft policies indicated the need to promote modal development by specifying measures covering funding improvement for all the transport modes.

- **Reports and Presentation:** Reports, presentations and other documents developed and presented during the project was a useful source of information and reference materials for all sector stakeholders.

- **Deployment of TRACE:** The TRACE tool was used to analyze the mitigation targets presented in the newly updated Nigeria NDC to show the sustainable development indicators associated with mitigation measures.

2.3 Other Transport Sector

The following are the key Project Successes:

- The project has awakened the consciousness of the Stakeholders in the Other Transport sector (OTS) Modal Agencies on the importance and relevance of designing and operationalizing the MRV System in OTS being a major vehicle for achieving Paris Agreement Objectives.

- Served as a foundation in helping the Federal Government of Nigeria (FGN) to fast track the realization of its National Development Plans, implementation of Climate Policies (i.e., Mitigation Policy) as well as its NDC (particularly OTS components); and enabling proper integration of sectoral actions into national transparency framework, to achieve 2030 Agenda.

- Empowerment of OTS Modal agencies in implementing climate action transparency in a specified, organized, and standardized manner, by giving the needed foundational information, data, Guides, Methodologies, Policy-making tools, technical and financial support to do so.

- Identification of major Gaps and Needs, Challenges and Solutions and SWOT of proposed Nigeria's MRV System in OTS, will serve as Guide for Policymakers, decision-makers, and relevant stakeholders, when making decisions.

- The revelation of the potential of setting up institutional and governance structures necessary for enabling and strengthening climate action transparency in OTS modes and effectuating linkages with FMEnv, Federal Ministry of Transport (FMoT) and Federal Ministry of Aviation (FMoA).

- Identification of ICAT Tools that will be needed for assessment of Impacts of climate policies (i.e., mitigation) and actions; thus, increasing the chances of attaining the nation's climate goals.

- Identification and selection of indicators to monitor and track NDC implementation.

- Training of staff and experts (in OTS Modal agencies) in international transparency processes (i.e., MRV, ETF), in partnership with climate-inclined International Agencies and Donors.

2.4 Agricultural Sector

The Agricultural sector involved a cross-cutting experience in terms of lessons learnt from the experts in the crop, livestock sub-sector. The achievements are all-inclusive of the sub-sector and are not limited to:

- Reviewed the sub-sector in terms of GHG inventory and mitigation actions (actors involved, availability of data, QA/QC, tools and archiving systems, MRV capacity in the country, etc.). This was achieved following robust stakeholder mapping, multilevel consultations, online forums, and sessions with support from the ICAT team and DCC. The input from the stakeholders formed the basis for achieving other milestones.

- Provided input to an internal Nigerian reporting scheme towards developing the national institutional setup: stakeholder buy-in was achieved at the sectoral level using an inclusive approach that was adopted at the beginning of the project. This led to a feeling of ownership of the process, products (reports) and actions.

- An overarching institutional arrangement with recommendation for national reporting system and design was also developed following significant input from the key priority stakeholders. The approach led to the identification of sectoral focal points which has been a major setback for the sector.

  Assessed Policies & Measures to develop NDC indicators/tools through in-depth desktop review and tracking of all relevant policies and executive orders for the sector. What each seeks to achieve, and status (implemented, ongoing, planning phase).

Other success stories include,

- High acceptance of project objectives at the sectoral level as Six (6) capacity building sessions were held for the stakeholders on sectoral GHG inventory preparation.

- A vibrant online forum of sector stakeholders created for seamless continuous interaction even beyond the current project timeline.

- High demand for step-down training for inventory preparation at the subnational levels emanating the impact and success of the multiple training sessions organised for the stakeholders.

2.5 Land use and land use change (LULUCF)

Strengthening LULUCF Sectoral Institutions and Capacities in Nigeria to Enhance MRV Transparency in line with Nigeria's National Priorities:

- With robust support from the ICAT team and the Department of Climate Change (DCC) staff, the consultant was able to organize series of robust multi-level stakeholder engagements and capacity building workshops leading to the development of the LULUCF Sectoral Framework needed to establish and institutionalize formal mechanism for GHG data collection, sharing, analysis, and reporting.

- Data Sharing Agreements (DSAs) between the DCC and other key relevant MDAs were proposed to be adopted during the technical consultative meetings as the model needed to plug the data gaps. The key institutions are the Federal and State Departments of Forestry, National Bureau of Statistics (NBS), Office of the Surveyor-General of the Federation, National Aerospace Research and Development Agency (NASRDA), National Population Council (NPC), REDD++ project Office, CSOs and NGOs that are active in the forestry and natural resource management ecosystem. The proposed DSAs signposts a radical departure from the past that will lead to a functional sustainable data sharing mechanism that will be used by the DCC to collate and populate the requisite LULUCF GHG data as part of the building blocks of the broader GHGs Inventory for Nigeria's National MRV System.

- The key focal points from identified MDAs, the private sector, CSOs and NGOs will need to be further trained on IPCC software and basic GHGs modelling.

Inter-Agency Collaboration

The project created room for inter-agency forward and backward integration via series of workshop-format stakeholder engagement and training using various online and offline platforms. This created stakeholder synergy that stimulated co-ownership of project outcome which would ensure sustainability at the sectoral level. The DSAs will help to sustain and maintain this synergy further down the road and guarantee long-term sustainability of Nigeria's National GHG MRV System.

3.0 Project Challenges and Solutions

Like any other project, the Nigeria-ICAT project encountered some challenges. However, to address these challenges, solutions were deployed to enable the smooth implementation of the project activities. Hence, this section of the report highlights the challenges that were encountered during the project across the various sectors and the solutions proffered to overcome them.

3.1 Oil and Gas Sector

The non-existence of standardized data collation format needed for GHG inventories, the use of default emission factors (EF) (Tier 1 approach); gaps in institutional arrangements; and the inability to effectively monitor mitigation outcomes among others are key challenges that the sector faced with. These general factors and others presented challenges during the implementation of this project. The challenges and the solutions deployed are presented in the table below.

Table 4: Summary of Challenges and Proffered Solutions

S/N	Challenges	Solutions
1	COVID-19 associated restrictions	Adapted to virtual meetings and workshops among identified stakeholders to comply with the COVID-19 protocols.
2	Stakeholders Identification and Engagement	Increased efforts in identifying and engaging all relevant MDAs by working closely with the DCC and the focal point of the DPR to ensure effective engagement.
3	Lack of adequate Institutional Arrangement	Proposed a robust Institutional Arrangement that would articulate and provide coordination for the overarching climate goals and targets and the transparency outputs needed to track them.
4	Lack of Legal institutional Frameworks	Established the importance and the urgent need of Legal Institutional Frameworks needed for establishing the roles and responsibilities of the different stakeholders needed to realize a working institutional Arrangement. Provided a framework that will guide the development of the Legal Institutional framework for the MRV system in the sector.

3.2 Road Transport Sector

The Lack of information collection systems in the sector (Robust MRV Systems), multitude of small, dispersed source emitters (vehicles), absence of technically sound and professionally competent experts on climate change issues such as GHG Emissions estimations/calculations, inventory management, Mitigation Actions, Quality Assurance and Quality Control (QA/QC) etc. and the non-availability of EFs specifically tailored into Nigeria's circumstances and contexts has proven to be major challenges for the RTS.

Presented in Table 5 below are specific challenges encountered during the project and the solutions to the challenges.

Table 5: Project Challenges and Solutions - RTS

S/N	Challenges	Solutions
1	Covid-19 Related Restrictions which "forced" engagements with stakeholders to hold remotely.	With the implementation of "social distancing" guidelines, stakeholders' engagements held remotely through the virtual options.
2	Inadequate Institutional Arrangement	Proposed a robust institutional arrangement that will enhance a well-structured and functioning MRV system
3	Lack of Organizational Mandate in Existing Institutional Arrangement	Defined the mandates of the stakeholders and institutions in the RTS while also highlighting their responsibilities going forward.
4	Lack of formalized legal institutional frameworks	Established the importance and the need for legal institutional frameworks for the RTS sector.
5	Lack of Technical Experts to handle MRV processes	Carried out capacity building across all levels to enable stakeholders to understand the principles and concepts of MRV especially as it relates to the sector.
6	Little or no involvement of private sector in sector processes	Involvement of both public and private sector stakeholders in meetings and workshops.
7	Lack of comprehensive analysis of NDC mitigation measures	TRACE was used to analyze the sustainable development indicators associated with mitigation measures presented in the updated NDC. It was used for identification of decarbonization co-benefits.

3.3 Other Transport Sector

The identified project challenges and possible solutions in OTS are highlighted in Table 6:

Table 6: Project Challenges and Solutions In OTS

S/N	Challenges	Solutions
1	Absence of Technical Experts to handle MRV processes	Capacity building initiatives were deployed to build the capacity of sector stakeholders in MRV concepts.
2	Non-existing Institutional Arrangements (IA) between and amongst OTS Agencies, supervisory Ministries (FMoT & FMoA) and FMEnv/DCC. This hinders technical coordination, collaboration as well as knowledge- and information sharing.	Proposed an institutional arrangement for the OTS.
3	Presence of barriers to private sector participation in every facet of the MRV system.	Involved both private and public sector stakeholders in the capacity building workshops and meetings.
4	Covid 19 restrictions	Adopted virtual options to implement some of the project activities such as meetings and some workshops.

3.4 Agricultural Sector

Identified project challenges in the crop sector

For the preparation of national GHG inventory, the sector faces challenges similar to other sectors. While the country has hitherto taken a project-by-project approach to preparing GHG inventories, through the capacity building initiative for transparency funds through the ICAT, Nigeria is building its national capacities, both systemic and human, to prepare for future reporting requirements.

Common cross-cutting issues between the Crop sub-sector and others are:

- Lack of extensive stakeholder consultation systems for gathering information and data. While there are several stakeholders within the sector, the distributed nature of these economic activities, limited institutional and human capacity as well as private sector engagement are few of the principal challenges in improving the overall MRV system.
- Clearly defined roles and responsibilities of the stakeholders are currently non-existent and those who are aware of them lack access to correct tools and technologies for data and information collection.
- Improving access to primary sources of data from secondary sources, and thereby improving the overall quality of the GHG inventory that can be prepared, is an important issue to be addressed.
- Relevant ministries and departments have other priorities and limited human and financial capacities to redirect to climate change data and information gathering systems. The results are vastly improved when they do get external funding resources, but they are short-lived as there are no systems currently in place to institutionalize these lessons learnt and mainstreaming MRV cost into the national budget.
- There are no dedicated staff or positions in all relevant Government departments planned and tasked with this responsibility. Activities, such as the NCs and BUR, are currently conducted on an ad-hoc basis with funding from external agencies and they are building the necessary institutional memories.
- The existing Government systems for data and information sharing are non-existent, and where such data and information sharing occur, they happen through hierarchical procedures and are not often at the speed that enables smooth and quick preparation of GHG inventory considering the annual cycle of the inventory process.
- Data and information collection templates have to be improved and understood not just by the key coordinating agency or first line ministries, but as well by the sub-national institutions and primary data providers.
- Issues of data retention, security and retrieval are not adequately addressed, as the country lacks a dedicated GHG management system.
- The country has prepared its National GHG inventories for the agriculture sector using Tier 1 systems, relying on default emission factors and third-party activity data sources.
- To progress to Tier 2 systems, the country has to improve its key category classification and disaggregation systems which are currently not available.
- The country also has to prepare country-specific emission factors to improve its overall sectoral accuracy, and reduce the uncertainties involved in GHG emission estimations

Recommended solutions for the sector

There are systems for collection of data and information, but to support the regular creation of national and sectoral GHG inventories, Nigeria needs to implement the following systems for the crop sector:

- Existing legal instruments and data and information collection systems must be reviewed and revised but where none exists such should be developed.
- A framework for data flow expertise and standards for reporting and data collection has to be created for the sector.
- The country needs to develop regulations or in the least, specific terms of reference for the various stakeholders for monitoring and reporting of data and information for GHG inventory preparation.
- These data and information collection systems can be further made robust with non-GHG related mechanisms as well.
- The DCC is building its capacity to deal with GHG related data and information collection. Building on existing systems of ad-hoc data collection for the NC, BUR/BTR; DCC can seek funds from project to further consolidate these arrangements into regular reporting lines. However, the following elements can be further improved:
- The developed sectoral framework for systematic and regular data and information collection should be adopted.
- A consolidated, and up-to-date stakeholder consultations map and registry needs to be created. This needs to be another living document to ensure that latest updates in economic activity in the sector are readily reflected
- The stakeholders from not just other ministries, but also private sector and the universities have to be added. Further, the scope of this analysis should include sub-national systems as well.
- There should be renewed top-level commitment from the Government of Nigeria through its coordinating ministries and agencies, in terms of legislation or steering committee or other such mechanism to indicate leadership and ownership of the GHG inventory process.
- The country can populate an expert's roster which will serve as the starting point for GHG inventory creation building on the ICAT project.
- Furthermore, the country needs to identify its human resource gaps for conducting several kinds of analysis with the collected data and information be it projections of different scenarios, or to assess the climate finance needed to achieve them, or to postulate the jobs that would be created, and people who need to be re-trained.
- On the allocation of resources for the regular collection of data and information needed for the GHG inventory, the coordinating entity for the sector needs to prepare and implement robust planning.
- Currently only ad-hoc arrangements are in place to support this type of GHG inventory preparation. A model used in preparation of the NCs, and BURs
- Longer-term solutions are the allocation of internal resource streams, and embedding regular data collection and sharing between ministries, departments as well as other public and private sector bodies.
- The resource allocation should also include requirements for public dissemination and general awareness raising.

Laws and regulations for data collection and sharing must be implemented in the sector. There are two layers of laws and regulations required to support regular production of GHG inventory.

- The first one involves the review and update of existing environmental laws and regulations to include data and information required from the various economic activities currently being undertaken in the country. This includes public and private institutions, industries, societies, and other sources. Where data points are not being collected, these can be either added on to existing systems, or new laws and regulations have to be created. This could be the case where either the sectoral activities are newly introduced into the country, or there are existing thresholds which have been exceeded.
- The second looks at systems for sharing of collected data and information between various ministries and departments, DALCCMS and DCC. This can be achieved by either creating new regulation or be formalizing existing ad-hoc arrangements into formal ones.
- These arrangements could either look at specific data flows, by establishing specific data points that need to be shared at specified intervals. Or they could look at over-arching umbrella agreements between responsible stakeholders so that fresh arrangements are not required each time a new data point is added to the list.
- Analysis has to be done on the congruence of data and information collection systems with those serving other purposes, such as SDGs.

The country needs to develop a GHG database management system (DBMS) with the following features:

- There must be effective regulatory framework available to enable the establishment and operation of an effective GHG database management system.
- It should be able to clearly identify existing institutions and place systems to add and remove institutions, designating key contact personnel and providing them access to the DBMS
- It should have clearly defined roles and responsibilities for
    - A statutory regulator
    - A program administrator
    - An IT developer
    - A system developer
    - An end-user
- The system should also be able to act as a primary point of QA/QC, ensuring that incorrect data (such as a number beyond a range, or text instead of number) is not entered

A QA/QC system needs to be developed for the sector. While there are existing QA/QC systems adopted in previous reports, the levels of uncertainty in the GHG inventory have to be improved.

3.5 Land Use, Land Use Change and Forestry (LULUCF)

Insufficient National Ownership Risk

The feedback streams from multiple stakeholder engagement emphasized the importance of sustained support needed to facilitate broader national ownership of the project. Broad national ownership was identified as a vital enabling factor for the development of a robust sustainable National GHGs MRV System. The risk of insufficient national ownership has been mitigated via the instrumentality of multi-level collaboration of relevant MDAs consummated in the DSAs, inclusive transparent engagements in the future, and provision of the highly needed target-specific resources to address identified organization-level capacity gaps.

Basic Infrastructure and Satellite Data Support

Multiple consultations with stakeholders identified challenges in terms of basic infrastructure, notably when and where internet access become unreliable. The lack of information technology (IT) hardware such as servers, storage, and backup, has proven to be problematic. There's insufficient infrastructure in the sector to achieve the desired nationwide data coverage, especially in certain sub-national contexts with very limited resources compared to federal MDAs. For instance, given the importance of the internet for MRV systems (data transfer, access to online guidance and methods, and so forth), the provision of resources for high-speed internet service has become necessary for stakeholder organizations based in rural areas with low internet connection levels. With the subsisting COVID19 situation, increased reliance on virtual platforms for meetings and engagements that would otherwise have been in-person has further reinforced the importance of sustained investment in the provision of a basic infrastructure like high-speed internet.

The provision of data; particularly raw actionable data, data products, and platforms or service providers has been highlighted as an important form of support needed to close a major gap in the sector. The stakeholders emphasized that free, open access to several remotely sensed data sets is of considerable value to the sector stakeholders. Nonetheless, some specific feedbacks highlighted other highlighted challenges by the stakeholders include:

- lack of reliable, quality activity data
- lack of country specific emission factors (EFs),
- weak institutional arrangements (IAs),
- absence of a fully operational Inventory Management System (IMS) to cater for the steps of compilation.
- Given the constraints in (i-iv), heavy reliance on international databases for activity data (AD) estimations leading to adoption of default IPCC EFs while hoping for the development of a robust IMS for sustainable compilation of future GHGs inventories.
- Lack of dedicated target-specific capacity building of national experts and critical stakeholders relevant to the set-up of robust MRV system.

4.0 Lessons Learnt

During the implementation of the Nigeria ICAT Project, several lessons that were useful for the smooth implementation of the ICAT project and others that would be useful for subsequent sectoral and national future projects were learnt as well across all the sectors. It is important to mention that this project is the first of its kind in the country (setting up frameworks for a robust MRV system), hence it served as a learning curve for all who participated in the implementation of the project activities.

4.1 Oil and Gas Sector

The Nigeria ICAT project presented the O&G sector with the opportunity to identify the gaps in the existing Institutional Arrangement and importantly, proposed a robust institutional arrangement that is much needed to set up an MRV system in the sector. Within the sector, lessons were learnt from the inception to the completion phase of the project. The most important lessons learnt include but are not limited to:

- The inception workshop was vital to sensitizing stakeholders, and to discuss in detail the project activities and necessary steps to be taken for the implementation of projects.
- Early involvement of sector stakeholders facilitated good cooperation which remained throughout the implementation of the project.
- Engaging sector MRV experts in capacity building workshops played a key role in enhancing knowledge transfer among the relevant stakeholders.
- Building on existing national arrangements was imperatively effective in developing the MRV system.
- There is a need for a legal institutional framework to ensure an effective institutional arrangement.
- There is a need to expand the existing institution mandates to allow for more coverage for MRV needs as, without it, it can be challenging to have a smooth operation of the MRV system.
- It is important to identify and develop the competence of the sectoral focal point and the key data suppliers to sustain the MRV Process.
- Institutions to be involved in the MRV process will need to understand how their activities contribute to enhancing the MRV process.
- Local experts and agencies can provide valuable opinions and contextual analysis provided confidentially is respected and they are not quoted directly.

4.2 Road Transport Sector

Going by the implementation processes of this project, it is believed that developing and sustaining a robust MRV system can be achieved in the RTS if all recommendations in the earlier submitted reports are considered. The achievement of this robust MRV process would enable the RTS to aggregate data from the stakeholders for GHG inventories and enhance transparent reporting of mitigation actions. Data gathering and transparent reporting will to a large extent close the data gap that is currently identified as a challenge in the RTS and help in building the much-needed MRV framework for the sector.

The key lessons learnt during the implementation of the project activities include:

- Engagement of stakeholders and institutions across all sectoral levels afford them to have a sense of belonging therefore fostering active participation.
- Continuous capacity building is required to sustain a good understanding of MRV concepts in the sector.
- There is a need to establish a legal institutional framework to ensure an effective institutional arrangement in the RTS as this will help to define the responsibilities and mandates of the institutions involved in the MRV process would further enhance a functional MRV system.
- Continuous identification and engagement with stakeholders directly involved in supplying data information are key to sustaining the MRV Process.
- There is a need to develop and establish a data-sharing agreement (DSA) that would protect data shared by various entities. This will encourage the stakeholders to freely share their data information knowing that there confidentially is guaranteed.
- Country specific EF will help to reduce uncertainty in the RTS.

4.3.1 Other Transport Sector

Lesson learnt and worth sharing in the OTS includes:

- The fact that this project has successfully established that IPCC Guidelines and Methodologies are ingredients for GHG Emissions trends, emissions calculations, GHG Inventory compilation as well as Indicators for tracking NDC Implementation but transposing them into OTS Agencies, is still a matter of grave concern that needs urgent attention, at Federal Government level, as it is expected to jumpstart it and escalate it to OTS Agencies' level.
- Stakeholders Engagement at their various levels of governance and society is important for the design and operationalization of domestic MRV Systems, Policy Formulation, and NDC implementation.
- Capacity Building (i.e., finance, technology, technology transfer and training) on a sustained basis, is very crucial to the success of domestic MRV Systems and NDC implementation.
- Continuous funding and timely release of appropriated funds as well as international support to address climate change impacts are highly essential.

4.4 Agricultural Sector

Lessons learnt in the crop and livestock sub-sector include

Lesson 1: Executive Level Governance Frameworks are a Valuable Alternative to Legislation/Regulation

An important component of an effective MRV system is a strong governance framework. Legislation and/or regulation provide the most comprehensive framework, but establishment requires broad political support and for that support to be available at the time the system is being developed. A valuable alternative can be to establish governance structures based on non-legislative, executive-level orders (presidential, ministerial, or technical).

These orders potentially do not have the full powers of legislation/regulation, such as a strong, enforceable compliance system. However, they are simpler and faster to establish and can be implemented with less political capital. In cases where these orders are not backed by formal compliance mechanisms, and to help facilitate participation, a reporting tool has to be designed to also provide reporting entities with information that potentially has value for their operations. The reporting process should also be designed to significantly reduce administrative burden.

Specifically, these legislations or orders will provide for the establishment of a national GHG inventory system, outline the high-level roles and responsibilities of agencies reporting GHG emissions in support of this system and provide for the establishment of a national database to underpin the system.

Lesson 2: Augmenting Existing Data Collection Process Can Provide a Valuable Means to Collect New Activity Data

The ability to collect and maintain a comprehensive activity data set is a critical component of an effective MRV system. In collecting data for MRV systems (of all scopes and scales) there is value in commencing by augmenting existing processes. This has the advantage of not overburdening stakeholders that possess this data. It is also more sustainable if it is assumed that resources for data collection, maintenance, QA/QC, data archiving and reporting also accompany these existing processes. Establishing entirely new data collection likely necessitates relatively significant costs and time resources to develop and train for these additional functions.

Lesson 3: Existing Data Sources are a Valuable Resource for Both National and Nama Level MRV Systems

The effective use of a wide range of existing data sources is an important element of a successful MRV system (whether national, or at sectoral level). A wide range of existing sources should be considered, including national statistics agencies, government departments/agencies, industry groups, and sector experts. These data may be in aggregated form, and so are particularly useful for sectoral level MRV systems. These data also provide a valuable means to undertake QA/QC and verification of new activity data in the sector.

Lesson 4: Collecting Activity Data from Key Stakeholders are Easier and More Effective When They See Value and Buy into The Process.

The ability to acquire data directly from top priority stakeholders are important for a sustainable MRV System in the crop sub-sector. Stakeholders can be reluctant to provide information for a variety of reasons, such as: they may be asked for the same information from different sources; it may be complicated and time consuming to provide the data; confidentiality is a concern; and no legislation/ regulation exists requiring they provide the data. Addressing these issues is an important part of designing effective data collection processes.

Lesson 5: Adopting A Systems-Based Approach Including Business Process Design, Governance, And IT Design Is Important for Effective MRV

MRV can be best thought of as a system, which includes elements like business process design, governance mechanisms, and information technology (IT) support systems. Data collection, emission factor assessment and development, and emissions calculations are of central importance, but a systems approach helps to make MRV more sustainable and improves transparency, accuracy, comparability, completeness, and consistency.

4.5 Land Use, Land Use Change and Forestry Sector

Lesson 1: Capacity Building of Key MDA Staff is Pivotal to Ensuring Long-Lasting Impact of Project Interventions
Approach to capacity building:

- Learning by doing -anchored skillset and knowledge
- Second iteration of the inventory essential - to sharpen and strengthen the newly built capacity

Tailor capacity building tools to specific sectoral contexts and needs capturing the unique peculiarities of the LULUCF sub-sector. For instance, participants demanded for multiple step-down trainings rather than aggregated training leading to more active participation.

There is almost always a tendency for high turn-over of stakeholder participants. This requires adequate preparation that puts in place measures that will ensure long-term impact despite the turnover. These measures include e.g:

- Use alternative techniques to build capacity via reliance on multiple training techniques like virtual, in-person, one-on-one office visits and engagements.
- Establish creative ways of retaining participants by applying the most popular techniques from (i) above best suited for specific MDAs
- Have more than one representative from each MDA -a diverse pool of participants from each of the relevant MDAs

Lesson 2: Investment Need for Capacity Building
The obvious gaps highlighted above have raised the scale of investment in capacity building and time needed to build capacity of national and subnational MDAs. This needs to be proactively factored into the readiness and operational budgeting of the MRV system in tune with what is likely to be sustainable for the country.

Lesson 3: Institutionalization of Data Sharing Agreements (DSAs) is key to Ensuring Long-Term Sustainability of the Impacts of Project Interventions.
Build on already existing informal inter-institutional structures: With support from ICAT, DCC and other key partners, the project worked on institutionalizing formal arrangements for GHG data collection, sharing, analysis, and reporting via

- Appointment of focal points to represent institutions as identified in the framework
- Anchoring deliverables on broader national commitments/goals/objectives
- Strengthening stakeholder engagement and ownership

Lesson 4: Fundamental barriers to LULUCF MRV system development and operation need to be identified from the outset, and sustainable solutions mainstreamed during the development phase. Risk mitigating activities will be needed to address contextual barriers to hiring and retaining of staff, access to fundamental IT infrastructure, internet connectivity, etc.

Lesson 5: MRV support, much like other development, needs to be fully embedded in national needs and priorities with support designed to facilitate national ownership.

Lesson 6: Technical support needs to be delivered in a collaborative way that facilitates national ownership to generate buy-in and enable strategic decision-making by the sectoral stakeholders. The consultant's Inclusive, collaborative, participatory engagement technique with focused support on capacity development, was well received by majority of the LULUCF stakeholders. This has enabled the establishment of cordial relationships based on deep knowledge of specific participant-MDA stakeholders and the national context in general.

Lesson 7: Technical advisory support needs to be provided from a standpoint of good knowledge of the national context, and specific institutional dynamics and peculiarities.

Lesson 8: Technical working groups helped to provide broad platform of support for national experts on the detailed technical needs of the project

5.0 Conclusion

Climate Change is a cross-cutting issue of international dimensions that has gained the attention of every country, organization, facility and individual and it is no longer in doubt. As such, Nigeria has to step up its role to actualize its commitments and pledges as contained in its submitted updated NDC document to the UNFCCC. Its commitment to Climate Action (i.e., mitigation) will contribute to tackling climate change impacts by reducing GHG emissions and working towards ensuring carbon neutrality. Hence, the milestone reports of the Nigerian-ICAT Project have served as foundational reports for the design and operationalization of domestic MRV Systems in each of the sectors and as future references for research and development in the country. Importantly, the lessons learnt while implementing the project activities across the sectors will be useful for the sectors' stakeholders, all relevant and concerned MDAs and the country at large.

The following recommendations will further enhance operationalizing the MRV framework in the country; the recommendations are drawn based on the lessons learnt during the project implementation; they include but are not limited to:

- Improving the existing Institutional arrangement will need a legislative institutional framework to guide its implementation.
- Some sector stakeholders already have a framework that supports compliance in terms of data collection and transmission to the institution collating the data on behalf of the government, thus should be enhanced.
- There should be a nexus between stakeholders, policies makers and country focal points on climate issues in the country especially in policies implementation. This is necessary to reduce complexities especially as it relates to data collation, reporting and coordination.
- The Federal Government through the Department of Climate Change will need to arrange training programmes for all stakeholders periodically to keep them informed on international industry practices.
- Climate financing plans need to be mainstreamed into the annual budgeting process to ensure climate actions (mitigation and adaptation) are supported.
- There is a need to continuously engage all sectoral stakeholders on the need for continuous data improvement.
- The Government should ensure that national Consultants, QA/QC experts and Researchers/Academics are an integral part of the MRV process to enhance the quality of output.
- There is a need for a GHG management system that will house all data for the purpose of reporting.

Furthermore, this project has supported Nigeria's ambition in building adequate capacity in the development of a sustainable MRV system; especially in the priority sector that will enhance the country's ability to measure the performance of targeted climate policies and actions across the various NDC sectors. The robust MRV system when adopted and becomes fully functionally will allow for coordinated tracking of progress towards GHG emission reduction targets.