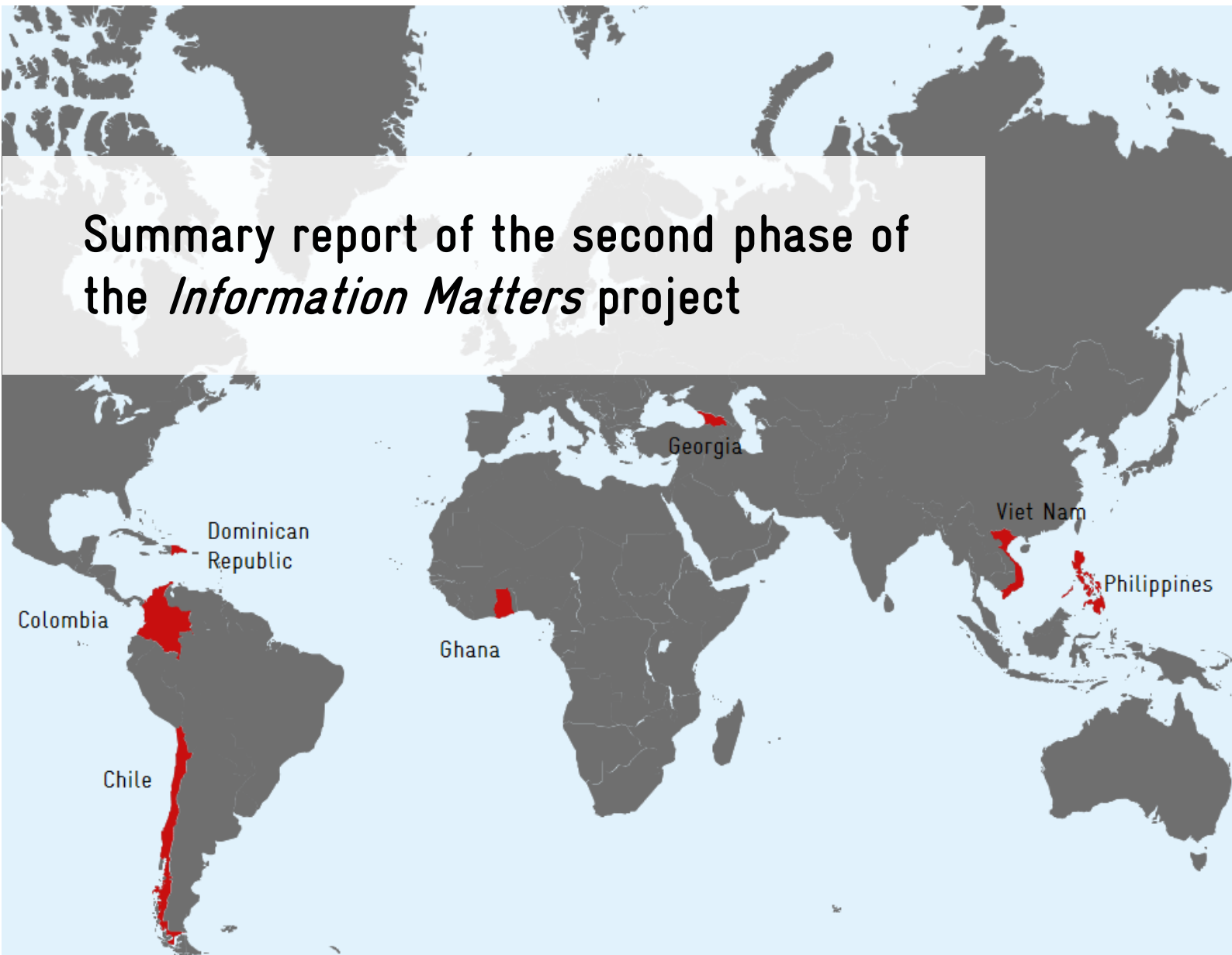


Information Matters

Transparency through Reporting

Summary report of the second phase of the *Information Matters* project



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für Internationale
Zusammenarbeit (GIZ) GmbH

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Project

Information Matters: Capacity Building for Enhanced Reporting and Facilitation of International Mutual Learning through Peer-to-Peer Exchange
The project is funded by the BMU International Climate Initiative.

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Abbreviations

AFOLU	Agriculture, forestry and other land use
ALU	Agriculture and land use
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BUR	Biennial update report
CCC	Climate Change Commission, Philippines
CCU	Climate Change Unit, Georgia
DCC	Department of Climate Change, Viet Nam (formerly Department of Meteorology, Hydrology and Climate Change, DMHCC)
EPA	Environmental Protection Agency, Ghana
GEF	Global Environment Facility
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GSP	Global Support Programme
HFC	Hydrofluorocarbon
ICA	International consultation and analysis
IDEAM	Institute of Hydrology, Meteorology and Environmental Research, Colombia
IKI	International Climate Initiative
IM	Information Matters
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial processes and product use
KP	Knowledge product
LULUCF	Land use, land-use change and forestry
MADS	Ministry of Environment and Sustainable Development, Colombia
MoA	Ministry of Agriculture, Lebanon
MoE	Ministry of Environment, Lebanon
MoENRP	Ministry of Environment and Natural Resources Protection, Georgia
MoEW	Ministry of Energy and Water, Lebanon
MONRE	Ministry of Natural Resources and Environment, Viet Nam
MoU	Memorandum of understanding
MRV	Measurement, reporting and verification
NAMA	Nationally appropriate mitigation action
NC	National communication
NDC	Nationally determined contribution
NICCDIES	National Integrated Climate Change Database and Information Exchange System, Philippines
QA	Quality assurance
QC	Quality control
SINGEI	National GHG Inventories System, Colombia
UBA	Umweltbundesamt (German Environment Agency)
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Executive summary

Introduction

In the context of the Information Matters (IM) project, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, working on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), has provided support to a number of selected partner countries to strengthen in-country capacities for enhanced reporting under the United Nations Framework Convention on Climate Change (UNFCCC). The focus of the IM project is providing support for the preparation of biennial update reports (BURs) and developing and implementing sustainable systems for measurement, reporting and verification (MRV) at the national level. During the first project phase (2013–2016), support was provided to Chile, the Dominican Republic, Ghana and the Philippines. The second phase of the project (2016–2018) benefitted from the results, experiences and lessons learned from the first phase to support other partner countries, namely Colombia, Georgia and Viet Nam. Targeted, short-term support was also provided to additional countries under the newly established Ad-hoc Facility.

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.

Specific activities and results

An overview of the main activities and results achieved during the first phase of the project is provided in the *Summary report of the first phase of the project*.¹ The present summary report provides an overview of activities conducted and results achieved during the second phase. The main activities carried out in this second phase comprised capacity building workshops in partner countries, support for additional countries on an ad-hoc basis, peer-to-peer exchange among partner countries and the development of guiding support materials and a compilation of lessons learned from the project in the form of knowledge products (KPs). The main developments in IM partner countries during the second phase included the following:

- In Colombia, following submission of the third national communication (NC), the institutions concerned are in the process of preparing the second BUR, taking into account improvements to the first BUR and the third NC, especially in relation to the national greenhouse gas (GHG) inventory, including improved data and information flow and underlying arrangements between key institutions, which were supported and strengthened under the project. Furthermore, national staff from various institutions were trained in the preparation of GHG inventories for the energy, industrial processes and waste sectors, using the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories (2006 IPCC Guidelines).
- In Georgia, national experts were trained in the use of the 2006 IPCC Guidelines, a draft strategy for setting up institutional arrangements for an overarching MRV system was developed and agreed among relevant stakeholders, a draft plan for quality assurance/quality control (QA/QC) for the national GHG inventory was developed, the technical staff of line ministries and agencies were trained on the reporting of mitigation policies and actions, a guidance document was prepared on MRV of climate finance and relevant staff were trained to prepare for the international consultation and analysis (ICA) process.
- In Viet Nam, the capacities of staff from responsible institutions were strengthened for the reporting of mitigation actions and support received. Local experts and staff of the Department of Climate Change (DCC) of the Ministry of Natural Resources and Environment of Viet Nam (MONRE) were trained in the management of the BUR preparation cycle, and the second BUR was

¹ <https://www.transparency-partnership.net/documents-tools/summary-report-first-phase-project>

submitted. Providing support to the preparation of the third NC, national experts were trained on the review and QA/QC of GHG inventories for the agriculture and land use, land-use change and forestry (LULUCF) sectors.

- In the Dominican Republic, government officers and agencies involved in preparation of the BUR received technical support in setting up institutional arrangements for MRV.
- In Ghana, government officials at both national and subnational level received capacity building training on data management and on the preparation of GHG inventories for the waste sector, paving the ground for establishing improved institutional arrangements for GHG inventory compilation and data collection in the sector.
- In the Philippines, national experts gained knowledge in uncertainty management, received expert advice to enhance the National Integrated Climate Change Database and Information Exchange System (NICCDIES) and received an orientation on the use of the 2006 IPCC Guidelines and Software for GHG inventories for the agriculture, forestry and other land use (AFOLU) sector.

In addition, the IM project provided support to Malaysia, Kyrgyzstan and Lebanon under its Ad-hoc Facility. In Malaysia, a peer review of the GHG inventory for the energy and industrial processes and product use (IPPU) sectors was conducted in conjunction with a training on the 2006 IPCC Guidelines for relevant institutions in preparation for the GHG inventory for Malaysia's third NC and second BUR. In Kyrgyzstan, key stakeholders were introduced to the main approaches for setting up a national MRV system for the preparation of the first BUR and the national GHG inventory. IM also undertook an analysis of Kyrgyzstan's third NC following the provisions of the ICA. In Lebanon, the IM project assisted the country in developing standard procedures and institutional arrangements for the preparation of the national GHG inventory and improved reporting of its NCs and BURs on a sustained basis with its own national staff.

IM also fostered peer-to-peer exchange among its partner countries. A workshop held in April 2017 brought together representatives from all partner countries as well as from the German Environment Agency (UBA) and GIZ, providing a space for mutual learning and the sharing of experiences and lessons learned.

Another essential component of the second phase was the development of the following KPs, with a view to sharing lessons learned from the IM project with a wider audience and assisting both IM countries as well as others beyond the project in their reporting efforts:

- [National benefits of climate reporting](#): highlights the benefits of transparent and ambitious climate reporting for countries. To be published in English, Spanish and French.
- [A brief history of the German national reporting system](#): on climate change: gives an insight into how Germany has developed its national climate change reporting system up to the present. To be published in English.
- [BUR Process Guidance Tool \(2018\)](#): step-by-step guidance on the necessary actions to be taken by countries in planning BUR and ICA processes. Available in English, Spanish and French.
- [Biennial Update Report \(BUR\) Template \(2017\)](#): guidance for the preparation of BURs following a proposed structure. Available in English, Spanish and French.
- [Guidance for setting up and enhancing national technical teams for GHG inventories in developing countries \(2017\)](#): step-by-step guidance and good practice examples to set up national technical teams for the preparation of GHG inventories. Available in English and Spanish.
- [Preparing for the ICA process – Required efforts and capacities needed \(2017\)](#): comprehensive guidance to support countries in preparing for participation in the ICA. Available in English.
- [Stock Taking Tool \(2017\)](#): comprehensive, interactive tool to identify prioritised actions for setting up or improving national MRV systems. Available in English and French.
- [Main findings of the first round of ICA for BURs \(2017\)](#): analysis of the first BURs from Non-Annex I Parties that have undergone at least the first step of the ICA process. Available in English.

Overarching impacts and lessons learned

The most important impacts of the second phase of the IM project were:

- Empowerment of the institutions responsible for preparing the reports to the UNFCCC, in particular BURs, through transfer of knowledge and analysis of institutional strengths and weaknesses. This has contributed to creating the conditions required for the countries to improve GHG inventories and the institutional arrangements necessary for MRV systems to meet reporting requirements under the UNFCCC.
- Other key entities and stakeholders involved in reporting increased their awareness of the importance of reporting, enhanced their understanding of roles and responsibilities in the process and gained more ownership of their own roles.
- An effective peer-to-peer session for the exchange of real-life experiences among institutions from countries with different levels of experience, enabling them to learn from each other's practices, challenges and successes.
- Development and publication of informative, practical tools, guidance and other resources in the form of KPs to support countries' reporting efforts, especially for the preparation of BURs.
- Support tailored to the needs expressed by the partner countries. For example, IM supported Georgia in preparing its hydrofluorocarbon (HFC) inventory, and Viet Nam in reporting on mitigation.

The implementation of the IM project also generated a number of lessons learned, which can be summarised as follows:

- BUR reporting continues to be a challenge for most countries (as at February 2018, the first BUR had been submitted by 39 of the 155 countries required to submit one before the December 2014 deadline). Programmes and activities such as those carried out under IM can be a vital support for countries in putting in place sustainable arrangements for reporting.
- According to the identified needs of the participating countries, GEF (Global Environment Facility) funding continues to be the mainstay of financial support for the preparation of BURs.
- The ICA is a non-intrusive process that can help countries identify areas for improvement through capacity building. It is important that the same individuals who prepare the BUR be involved in the various steps of the ICA to make the most of the feedback received. In such cases, relatively little effort is required to prepare for the ICA, since those involved already have the relevant knowledge to participate in the process.
- It is important for each country to clearly designate the institution responsible for the development of climate reports and to keep to a time plan for their completion. Indecision regarding the lead institution frequently leads to inaction and inefficiencies.
- It is recommended to get started with the process of reporting as early as possible, even if a simplified approach is used to begin with, working towards more ambitious transparency and completeness goals through continuous reporting, so that reporting is improved over time.

I. Introduction

1.1 Background

Nations, regions and municipalities worldwide are undertaking efforts to limit greenhouse gas (GHG) emissions. In order for these activities to be internationally comparable, attributable and verifiable, common international measurement, reporting and verification (MRV) approaches are required. MRV assists in tracking progress in reducing GHG emissions to meet the 'below 2 °C target' – the long-term overall goal of holding the increase in the global average temperature to well below 2 °C. Parties to the UNFCCC are required to submit national reports on the implementation of the Convention to the Conference of the Parties (COP). The reporting requirements for developed and developing countries differ in various aspects, such as in frequency, scope and content as well as in related processes to review the information submitted. Developing country Parties are required, in principle, to submit a national communication (NC). In addition, since December 2014, they should report on their GHG emissions, mitigation actions and support needed and received every two years in the form of biennial update reports (BURs), which are subject to an international consultation and analysis (ICA) process.

The project Information Matters (IM): capacity building for ambitious reporting and facilitation of international mutual learning through peer-to-peer exchange seeks to strengthen the capacities of the partner countries with regard to the above-mentioned reporting requirements. The project supports countries in the preparation of their GHG inventories and related information as well as in reporting on mitigation actions and other elements required in the BURs. It also aims to contribute to climate change mitigation by strengthening countries' technical and institutional capacities and improving institutional frameworks for climate reporting.

Through a solid and robust MRV system, it is expected that the partner countries will not only improve their reporting to the UNFCCC but will also be able to plan and implement mitigation strategies and policies more effectively and efficiently. The project aims to increase transparency in reporting and thereby build trust in the international climate context. Furthermore, by laying the groundwork for solid MRV arrangements that allow for improved and sustained reporting, IM is setting the basis in its partner countries in preparation for upcoming reporting requirements under the Enhanced Transparency Framework of the Paris Agreement.

The IM project is delivered by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and commissioned by the German Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) as part of the International Climate Initiative (IKI). During its second phase, the project was implemented with the technical support of the Danish consultancy firm NIRAS A/S, engaged as a subcontractor.

1.2 Objectives

The primary aim of the IM project in the second phase was to build capacity for the preparation of BURs and the improvement of institutional arrangements and national MRV systems in partner countries Colombia, Georgia and Viet Nam. In addition, a flexible Ad-hoc Facility was established under the project to provide targeted, short-term support to a number of additional countries on the subjects covered by the project. IM also aims to foster peer-to-peer exchange among its partner countries as an opportunity for mutual learning and the sharing of experiences and lessons learned. All IM activities are further complemented by the development of guiding materials and tools in the form of knowledge products (KPs), using the experience gained in the partner countries and supporting other non-partner developing countries in their reporting efforts.

The present IM summary report provides an overview of the activities carried out, the results achieved, both in general and in each country, key findings related to best practices, lessons learned and conclusions from the second phase of the project. This will guide the future implementation of IM during its third phase in 2018/2019.

II. Methods and approach of the Information Matters project

2.1 Methods

The IM project was delivered through several main activities: capacity building workshops, technical backstopping, country-specific guidance documents, a peer-to-peer workshop and the development of KPs. Capacity building activities were delivered in each of the participating countries mainly via in-country workshops and training events.

In each partner country, the project began with a stock take in the form of an analysis of its strengths and weaknesses to identify specific needs as well as the existing capacities and arrangements already in place for national MRV structures. The results determined the technical content to be delivered by the capacity building activities and were validated at a **kick-off workshop** with national stakeholders, which concluded with agreement on a **tailored capacity building plan (roadmap)**. Topics such as GHG inventories, MRV for mitigation actions, MRV for support received and required, data management systems and data QA and QC were identified as key areas for the capacity building workshops, training events and guidance documents. The IM project took care to complement other related projects carried out by GIZ and other donors in the partner countries in order to enhance synergy and avoid overlap.

The next steps involved undertaking up to three capacity building missions to these countries, delivered with the participation of national authorities, to strengthen in-country capacities. The objective of the capacity building activities was to enable ambitious reporting by bridging information and data gaps and improving processes and procedures according to requirements under the UNFCCC, thus helping to achieve robust and enhanced reporting in the countries' NCs and BURs. The capacity building workshops/training events built up technical capacities for the preparation of GHG inventories and BURs, promoted the exchange of knowledge and encouraged discussion and peer-to-peer exchanges on current in-country issues.

Capacity building workshops and technical backstopping support were tailored for each country to meet the requirements of their agreed plans. The topics addressed included MRV architecture, GHG inventories, MRV of mitigation actions, MRV of support, emissions baselines, data management, data QA and QC, the ICA process and the development of institutional structures, which will also provide the basis for meeting the future transparency provisions of the Paris Agreement. The IM workshops and training events contributed to enhancing cooperation among key stakeholders, such as line ministries and institutions, building networks, sharing knowledge, experiences and lessons learned and developing approaches to overcome existing obstacles in the reporting process.

The workshops were planned and delivered in the countries concerned from August 2016 to February 2018. In addition to the capacity building workshops, which were held in the form of training events, another component of the project consisted of remote technical backstopping to provide assistance to national entities on key issues in between or after the in-country workshops. Remote technical backstopping was also used to develop several useful country-specific KPs (tools, guidance documents and papers) to assist countries with the development of their BURs and to embed good practice in processes and procedures for data collection, analysis and reporting. Through its Ad-hoc Facility, IM also gave technical support in response to requests from other developing countries (Malaysia, Kyrgyzstan and Lebanon) to address their identified needs, including preparing BURs, establishing MRV systems, undertaking the ICA process and laying the groundwork for future transparency requirements. This support was provided through targeted activities in the form of one-time capacity building workshops and the provision of expert advice.

The project experiences were also used to generate guidance and tools relevant to all developing countries seeking to set up MRV systems for BUR and NC reporting. A number of KPs were developed to share experience among and beyond the IM countries. The type of information shared through KPs

included guidance for different components of MRV setup, templates, interactive tools, lessons learned and best practice studies. To increase the scope of these tools and make them applicable to a wider range of users, some of them were translated into French and Spanish and, in some cases, publicly advertised and introduced through webinars.

KPs publicly available on the IM website² include:

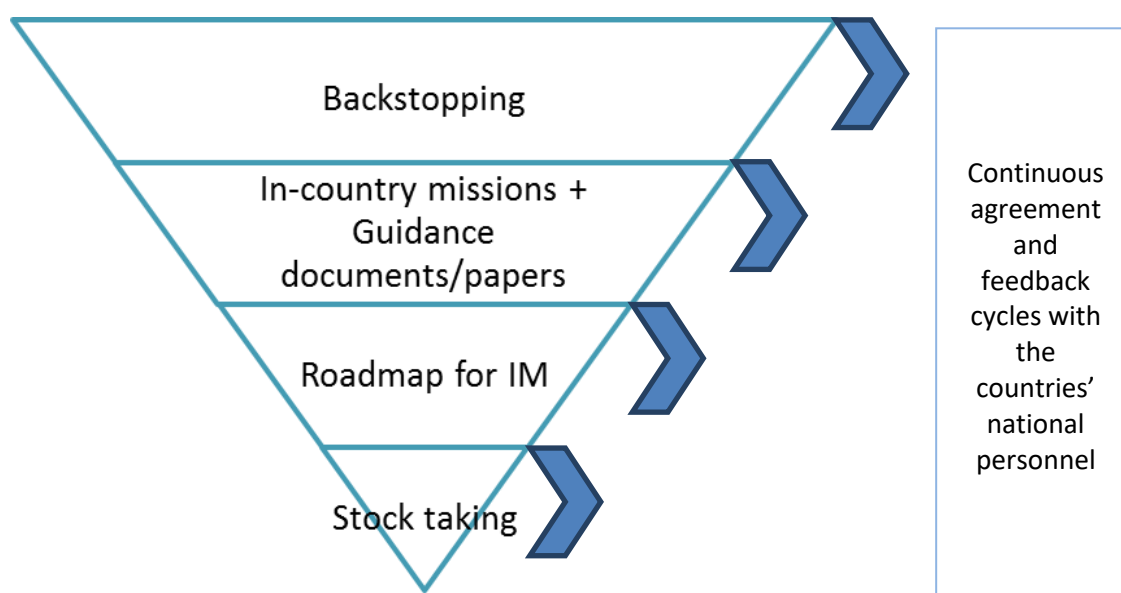
- National benefits of climate reporting (2018), to be published in English, French and Spanish
- A brief history of the German national reporting system (2018), to be published in English
- BUR Process Guidance Tool (2018), available in English, Spanish and French
- Biennial Update Report (BUR) Template (2017), available in English, Spanish and French
- Guidance for setting up and enhancing national technical teams for GHG inventories in developing countries (2017), available in English and Spanish
- Preparing for the ICA process – Required efforts and capacities needed (2017), available in English
- Stock Taking Tool (2017), available in English and Spanish
- Main findings of the first round of ICA for BURs (2017), available in English.

In addition, a **peer-to-peer workshop** was held with representatives of the seven IM partner countries (i.e. those participating in the first and second phases) as well as of the UBA and GIZ. The aim of this workshop was to foster the exchange of experiences and lessons learned for sustainable MRV and reporting systems among the IM partner countries. The two-day programme was structured as follows:

- Day 1: Institutionalisation of BUR reporting systems
- Day 2: Part one – BUR compilation and participation in ICA. Part two – The future of reporting

The overall approach of the IM project's second phase is shown in the figure below.

Figure 1. IM capacity building methods (Source: NIRAS)



² <https://www.transparency-partnership.net/network/information-matters>

2.2 Approach

To guarantee continuity in the IM project activities for each country, a team including members of the principal stakeholders of the project was assigned to oversee implementation of the project. The team comprised staff from GIZ headquarters in Germany, a country-based focal point for IM at the respective GIZ country-office and, as technical support, one or two consultants from the subcontractor NIRAS. This made it possible to maintain an effective communication flow among the actors and ensure the continuity of the process in between each workshop. This structure also facilitated consultations with key national stakeholders and management of local logistics. All key actors were engaged in the design of the capacity building plan and in relevant capacity building missions, thereby contributing to continuity and trust between stakeholders and the IM team.

The project approach was to use tailored capacity building and technical backstopping for individual countries. During IM activities, training consisted in large part of practical exercises and both small and large group discussions in order to engage participants in the discussions and make them familiar with the training materials. At the same time, IM sought to build upon other initiatives addressing similar topics and provide a basis for future projects and activities that could further develop the work and results of IM. The IM project took care to avoid overlapping with other climate-relevant support projects in the partner countries and maximised synergies to enhance benefits for the IM country.

The work of the IM project took a holistic approach to MRV processes and structures, ensuring key stakeholders in each country understood what is appropriate for their country and the roles and responsibilities of institutions within the MRV system. This resulted in enhanced understanding by stakeholders of MRV for their country and their respective roles and encouraged institutions to work together and share information.

III. Country activities and results achieved under IM phase II

This section describes all the activities undertaken with each partner country during the second phase of the IM project and the results achieved, providing a summary of the work done, the capacity building approach utilised and the experiences and results obtained. *Table 1* gives a summary of all the topics covered in each partner country that joined the project during the second phase. *Table 2* gives a summary of the topics covered during the second phase with the countries that were involved in the project from the first phase as well as those that received support under the Ad-hoc Facility.

Table 1. Topics delivered to partner countries under IM during phase II

Topic	Georgia	Colombia	Viet Nam
Training on BUR guidelines	✓	✓	✓✓
Support for first BUR preparation			
Support for second BUR preparation		✓✓	✓✓
MRV architecture (institutional arrangements)	✓✓	✓✓	✓✓
GHG inventory	✓✓	✓✓	✓
MRV of mitigation (NAMAs and reporting standards)	✓✓	✓	✓✓
MRV of support	✓✓	✓	✓✓
Data management (protocols)	✓✓	✓✓	✓
Data QA/QC	✓✓	✓	✓
Preparation for the ICA process	✓✓	✓	✓
2006 IPCC Inventory Guidelines	✓✓	✓	✓

Key: ✓ Issue covered; ✓✓ Issue covered in more depth

Table 2. Topics delivered to phase I and other countries under IM during phase II

Topic	Chile	Dominican Republic	Philippines	Malaysia	Kyrgyzstan
Training on BUR guidelines		✓		✓	✓✓
Support for first BUR preparation		✓✓	✓		✓✓
MRV architecture (institutional arrangements)		✓✓		✓	
GHG inventory	✓	✓	✓✓	✓✓	✓✓
MRV of mitigation (NAMAs and reporting standards)		✓			
MRV of support		✓			
Data management (protocols)			✓✓		
Data QA/QC			✓✓	✓	

IPCC GHG inventory software			✓✓	✓	✓
Preparation for the ICA process					✓
Future reporting requirements under Paris Agreement		✓			✓

Key: ✓ Issue covered; ✓✓ Issue covered in more depth

3.1 Colombia

Overall, implementation of the IM project focused on institutionalising and systematising the preparation of reports to the UNFCCC, in particular the BUR and GHG inventory, with a view to making reporting a continuous and institutionalised process that enables the country to make improvements over time and meet current and future reporting requirements under the UNFCCC.

a. Capacity building activities

The following activities were carried out in Colombia:

- **Stock taking and kick-off mission** (September 2016): the stock taking focused on analysing the existing MRV structures in place, including processes and arrangements for preparing reports to the UNFCCC, in particular the BUR, with the identification of challenges and gaps. A kick-off workshop with key stakeholders and relevant institutions helped to define and validate a roadmap setting out the priorities to be addressed by the IM project in Colombia. Key stakeholders included, inter alia, the Ministry of Environment and Sustainable Development (MADS), the Institute of Hydrology, Meteorology and Environmental Research of Colombia (IDEAM), which is the institution responsible for preparing national reports, including BURs, to the UNFCCC, and the National Planning Department and others.
- **First capacity building workshop** (March 2017): the objective was to **transfer knowledge** and good practices on the design, **institutionalisation and operationalisation of a national GHG inventory system** to stakeholders from national institutions involved in the development of the BUR and the GHG inventory. To this end, experiences, good practices and examples from other countries were presented, including a contribution from **Germany on its national GHG inventory system**, presented by IM project partner the UBA. Discussions on applicability to the Colombian case also helped to identify specific needs in terms of institutional arrangements to address the lack of information and challenges in the Colombian setup for reporting and data collection. This workshop was held in cooperation with the Öko-Institut and the GIZ project "Accounting Rules for GHG Inventories".
- **Second capacity building workshop (October 2017)**: it focused on institutional arrangements for the GHG inventory, especially the collection and management of data. The workshop included a session in the framework of the Technical and Scientific Information Committee of the National Climate Change System (SISCLIMA) of Colombia. Its objective was to inform and engage with the main providers of activity data on the National GHG Inventories System (SINGEI) and advance the institutional arrangements for inventories, including the existing SINGEI data protocols and templates. This served as a basis to discuss how to operationalise and implement these protocols with the national institutions involved, how to overcome barriers and how to improve institutional structures for the flow of activity data for the SINGEI.
- **Third capacity building workshop (February 2018)**: it provided **training on the preparation of GHG inventories in the energy, industrial processes and solvent use (IPPU) and waste sectors**, according to the 2006 IPCC GHG Inventory Guidelines. The workshop was targeted at national key stakeholders, data providers and relevant institutions with a role in the preparation of GHG inventories to enhance their understanding of data needs, the application of IPCC methods in the respective sectors and the need for institutional arrangements. Participants identified existing challenges in these sectors and ways to overcome them both in the short term, i.e. for the second BUR, and in the mid and long run up to 2030. The training events were preceded

by an **expert peer review of the Colombian GHG inventory** of the third NC (with the participation of Chile as an IM partner country and CITEPA, France, among others) whose findings and recommendations for further improvements complemented the results of the training.

- The project also prepared a *Study of institutional arrangements to generate biennial update reports in Colombia* (2017), describing the current arrangements and links between entities for the flow of information for the preparation of the BUR and its components (GHG inventory, mitigation actions and support received and needs). It also contains recommendations for the further development of institutional arrangements that will optimise the reporting process over time.

Figure 2. First capacity building mission in Bogota in March 2017 (Source: NIRAS)



b. Experiences and results

Although the institutionalisation of reporting procedures is a continuous process that takes time, the outcomes of the implementation of IM in Colombia include the following experiences and preliminary results:

- Relevant stakeholders have enhanced awareness of the importance of sustained and formalised institutional arrangements. The transfer of experiences and good practices from other countries, especially from Annex I countries, as requested by Colombia, made an important contribution to achieving this. The interactive session with the UBA helped to clarify issues relating to the preparation of GHG inventories and management of the process, including the question of confidentiality with regard to private companies.
- The team from IDEAM, the institution responsible for reporting to the UNFCCC and in charge of the BUR, has a more solid understanding of the BUR cycle, UNFCCC requirements and sources of international support. Its role in leading the BUR preparation process and collaboration with relevant players (e.g. national GHG inventory experts) and national institutions has been strengthened.
- Potential improvements and actions were identified in several areas, including some elements of the BUR, interinstitutional communication and institutional arrangements with a number of key institutions. Plans for improving communication and cooperation for data flows and for better defining the roles of the respective key stakeholders (such as MADS, IDEAM and the National Planning Department) were developed. This will facilitate the move from the current

ad-hoc arrangement towards more formalised arrangements for the sharing of data and information, which will further strengthen the country's MRV system.

- Finalisation of the second BUR is planned for mid-2018 and will include the 2013-2014 GHG inventory. This will be prepared using the new data protocols, which were reviewed and pilot-tested with support from IM.

3.2 Georgia

In Georgia, GIZ provided technical support to the Ministry of Environment and Natural Resources Protection (MoENRP), particularly the Climate Change Unit (CCU). The proposed capacity building plan for Georgia was comprised of three main activities: capacity building workshops, development of guidance documents and provision of technical backstopping. The most important capacity building need identified was the institutional and legal setup of an overarching MRV system. Other needs identified were related to the improvement of the national GHG inventory, including data collection, application of the 2006 IPCC Guidelines and development of QA/QC procedures. Additional support was provided on MRV of mitigation policies and actions and on participation in the ICA process. In addition to the MoENRP, other entities participated in the capacity building activities, including the ministries of energy and agriculture and private consultants involved in climate reporting.

a. Capacity building activities

The following activities were carried out in Georgia:

- **Kick-off mission** (July 2016): this mission launched the project officially, presented the IM project and ongoing climate change mitigation initiatives in Georgia and validated the key findings of the stock take.
- **First capacity building mission** (January 2017): a one-day workshop focused on the current situation of Georgia's MRV system and how to address its future enhancement in terms of institutional setup for MRV activities. The workshop included case studies from Estonia, Chile and Germany. A three-day training for national experts was also provided on GHG inventory compilation following the IPCC 2006 Guidelines and Software, with parallel sessions for the AFOLU, energy and IPPU, and waste sectors.
- **Second capacity building mission** (July 2017): the topics were MRV of mitigation actions with case studies and practical exercises based on national circumstances and priorities.
- **Third capacity building mission** (September 2017): one day was dedicated to communicating and validating the recommended MRV institutional setup for the country and improving the HFC emissions inventory by involving industry stakeholders. In addition, a two-day training event was held to enhance knowledge of data collection and QA/QC processes for GHG inventory data in general as well as for the different GHG inventory sectors.

Furthermore, the following guidance documents were developed:

- 1) **Guidance Document: MRV of Support Needs and Support Received:** it aims to provide insights into reporting on needs and support received, considering the UNFCCC framework and existing experiences in developing countries.
- 2) **Guidance Document: Methods to Improve the Inventory of HFC Emissions in Georgia:** it provides an overview of HFC emissions in Georgia and how such emissions are to be estimated in the national GHG inventory. The paper draws on experiences in other countries and includes proposals to enhance the institutional setup for future measurement and reporting of HFC emissions.
- 3) **Guidance Document: Institutional Setup of Reporting Systems: Georgia. High-Level Strategy (Roadmap) for Establishing the Necessary Institutional Framework and System for MRV:** it presents a road map on the institutional framework and system that Georgia needs to establish to meet current climate-relevant reporting requirements under the UNFCCC as well as to meet future reporting requirements under the Paris Agreement in a sustainable manner.
- 4) **Guidance Document: Background Paper on a Legal Setup for MRV in Georgia:** it provides recommendations on the required legal framework for the establishment of a national MRV system in Georgia.

Figure 3. First capacity building mission in Georgia (Source: NIRAS)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in Georgia can be summarised as follows:

- The project guided the country into the successful participation of the CCU in the ICA process.
- Based on Georgia's needs, IM carried out an activity to improve understanding of HFC emissions and promoted the country's cooperation with private companies, such as HFC importers, to enhance activity data availability.
- Georgian experts were trained in the use of the 2006 IPCC Guidelines and Software, and Georgia is now applying that knowledge in its second BUR, thus moving on from the 1996 Guidelines. Following the capacity building missions, the country has a larger number of experts with capabilities to manage and carry out inventory compilation processes.
- Georgia's inventory compilation team, with advice from IM experts, laid the foundations for the establishment of a QA/QC plan for GHG inventory data collection and calculation of emissions.
- The capacity building activities provided valuable inputs to improve the development of Georgia's second BUR, which started in September 2017 and is expected to be finalised by the end of 2018.
- The project's workshops, training events and guidance documents raised awareness among relevant stakeholders on the importance of the reporting process under the UNFCCC.
- Georgia ended the second phase of IM with a clear roadmap for the transformation of institutional arrangements towards a sustainable national MRV system for climate reporting. One core output of this process was a high-level strategy for the establishment of new institutional arrangements to facilitate the preparation of the GHG inventory, the MRV of mitigation actions and improvement of the tracking of support needed and received.

3.3 Viet Nam

In Viet Nam, IM cooperated with the national climate change focal point, the MONRE and its Department of Climate Change (DCC) (formerly Department of Meteorology, Hydrology and Climate Change, DMHCC). The activities conducted were based on an assessment of capacity gaps and needs made during the stock taking mission and finalised in collaboration with the partner during the kick-off workshop in August 2016. The main focus of IM support to Viet Nam was preparation of the country's second BUR, which was submitted in November 2017. Further, IM provided support to enhance the national GHG inventory, with recommendations to improve the choice of emission factors used and technical training for the AFOLU sector.

a. Capacity building activities

The following activities were carried out in Viet Nam:

- **Stock taking mission** (March 2016): interviews, analysis and identification of the needs and gaps of Viet Nam's MRV system in terms of the collection, processing, analysis, interpretation, tracking and reporting of climate-relevant information to assist the country in its international climate change reporting.
- **Kick-off mission** (August 2016): launch of IM and an official consultation on the preparation plan for the second BUR.
- **First capacity building mission** (August 2016): overview of BUR reporting requirements, the essentials of MRV, reporting on national circumstances, institutional arrangements, GHG inventories and mitigation actions. It also compiled information on constraints, gaps and related financial, technical and capacity building needs and support received.
- **Second capacity building mission** (March 2017): the training strengthened the capacities of selected national staff and specialists from various sectors in reporting on mitigation actions for the development of the mitigation chapter of Viet Nam's second BUR.
- **Third capacity building mission** (January 2018): The training strengthened technical capacity for the preparation, technical review and QA/QC of the GHG inventory as well as emission projections in the LULUCF and agriculture sectors through hands-on exercises.
- **Backstopping on MRV of support** (June 2017): technical guidance on the compilation of data on support received.
- **Desk review of draft mitigation actions chapter of the second BUR** (July 2017): this activity included a detailed review of the draft chapter on mitigation actions of the second BUR. The comments were submitted to the BUR team for their consideration before official submission to the UNFCCC in November 2017.
- **Emissions factor mapping** (November 2017): compilation of emissions factor mapping for Viet Nam's current and previous national GHG inventories. Based on this mapping, a guidance paper with recommendations for improving Viet Nam's emission factors will be developed (expected to be finalised during phase III of IM).

Figure 4. First capacity building mission in Hanoi in 2016 (Source: NIRAS)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in Viet Nam can be summarised as follows:

- The capacity of the relevant governmental representatives and national consultants on BUR reporting was enhanced through the sharing of knowledge on the respective guidelines and lessons learned from various countries.
- Based on the knowledge obtained, the second BUR compilation team was able to provide an enhanced chapter on mitigation actions compared to the first BUR.
- The BUR compilation team now possesses an enhanced understanding of the requirements and the process of data collection on support received.
- Members of the GHG inventory teams for LULUCF and agriculture are trained in the preparation, technical review and QA/QC of the GHG inventories of the two sectors as well as in the development of emission projections for LULUCF.
- Methodological differences between the emission estimates of MONRE and the Ministry of Agriculture and Rural Development (MARD) for the forestry sector have been identified for future harmonisation.

IV. Targeted support for phase I and other countries

The second phase of the IM project also included activities carried out in response to requests for additional support from the partner countries involved in IM since phase I of the project, i.e. Chile, the Dominican Republic, Ghana and the Philippines. Furthermore, IM has supported a number of additional countries upon request, under its flexible Ad-hoc Facility, through which specific needs identified by countries in relation to BUR reporting and related MRV have been addressed in the form of short-term activities.

4.1 Chile

IM provided technical support to Chile's Department of Climate Change at the Ministry of the Environment between January 2014 and June 2017. The support focused on preparation of the first BUR as well as on building capacities for the GHG inventory and for MRV of mitigation actions. Additional information on phase I activities can be consulted in the *Summary report of the first phase of the project*.³

Chile has taken a leading role in the Latin American region in the field of GHG inventories and, in 2016, launched, together with the United Nations Development Programme (UNDP) Global Support Programme (GSP), the Latin American network of GHG inventories. Within this network, Chile hosted the first meeting of the Latin American GHG Inventory Network in October 2016. This meeting was carried out back-to-back with the Latin American Workshop on implementing MRV systems for mitigation actions and building scenarios. IM supported both events as a co-organiser. Additionally, an in-country peer review of Chile's national inventory was undertaken by the UBA in March 2017.

a. Activities

The activities held during the 2016 event aimed to disseminate information on GHG inventories and MRV systems for mitigation actions, including emissions projections, and to provide training for professionals in these areas. The events at which these activities took place were the first meeting of the Latin American GHG Inventory Network and the Latin American Workshop on implementing MRV systems for mitigation actions and building scenarios. The workshop provided the first opportunity for the official focal points of the Network's member countries to meet and work together to address several specific objectives.

The purpose of the Network's first working meeting was to bring together the focal points for an initial meeting on cooperation among the member countries. The aim was to facilitate exchanges among the countries present on their successful experiences. Furthermore, the second workshop sought to give a better understanding of systems for the MRV of mitigation actions, improving their operational effectiveness and creating a forum for discussion and exchanges of experiences among Latin American countries. These activities were implemented in cooperation with the Ministry of Environment of Chile and with the UNDP/UN Environment GSP.

³ <https://www.transparency-partnership.net/documents-tools/summary-report-first-phase-project>

Figure 5. Participants at the first meeting of the Latin American Greenhouse Gas Inventory Network (Source: GIZ)



An in-country peer review of Chile's national GHG inventory was conducted in March 2017 by three German experts from the UBA under the coordination of the IM project. Under this peer review, the GHG inventory was reviewed and recommendations made to improve the information provided. The institutional setting for the National Inventory System was also assessed together with national stakeholders, and recommendations were made to formalise and improve cooperation among institutions.

b. Experiences and results

The experiences and preliminary results of the implementation of IM in Chile can be summarised as follows:

- The workshop on MRV for mitigation actions in Latin America provided training and exchanges of experience and facilitated exchanges among government officials and representatives of academia and the private sector.
- Recommendations for the improvement of the national GHG inventory system have been implemented to formalise and improve institutional cooperation.
- The GHG inventory has benefitted from technical guidance provided by German experts during the peer review and has been technically enhanced.

4.2 Dominican Republic

IM provided technical support to the Dominican Republic's National Council for Climate Change and Clean Development Mechanism between October 2013 and June 2017. The support focused on setting up a national MRV system and building capacities for the GHG inventory. Additional information on phase I activities can be consulted in the *Summary report of the first phase of the project*.⁴ During phase II, the IM project continued to provide specific support to the Dominican Republic and conducted a training event on institutional arrangements in combination with a closing workshop. As a final output of the project, IM developed a guidance document for the establishment of institutional arrangements and systems to generate BURs based on the results from phase I and the outcomes of the closing event.

⁴ <https://www.transparency-partnership.net/documents-tools/summary-report-first-phase-project>

a. Activities

During phase II of the IM project, a final workshop on the institutionalisation of an MRV system for sustained reporting to the UNFCCC was held in June 2017 in conjunction with the closing of the project. The aim of the workshop was to enhance the basis for the institutional arrangements for an MRV system and to develop an action plan for the preparation of the first BUR. The workshop included a review of UNFCCC reporting requirements and guidelines for BURs and NCs, including an outlook on future reporting requirements under the Paris Agreement. In addition, the workshop conducted a discussion on the resources required for the BUR reporting cycle as a whole, including potential responsibilities for its compilation among the different ministries and entities and the necessary institutional arrangements. It also analysed information flows, quality control, databases and timelines for the preparation of the BUR.

The workshop further reviewed various models for institutional relationships between data providers and the team responsible for reporting and considered ways to assemble the national team that will report the GHG inventories, BURs and NCs now and in the future.

Based on the workshop outcomes, the *Institutional Arrangements paper on MRV for the Dominican Republic* was updated with a roadmap and recommendations for setting up a national MRV system and preparing the country's first BUR.

Figure 6. Group discussion during the workshop held in June 2017 in the Dominican Republic (Source: NIRAS)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in the Dominican Republic can be summarised as follows:

- Consideration of the current and possible future institutional arrangements raised awareness among the various stakeholders about the need for institutional frameworks and systems that produce reliable and periodic information for the purpose of BURs, NCs and future reporting as well as for the country's own benefit.
- The analysis and proposal of institutional structures for MRV provides a framework for optimising the reporting process in both the short and long term.

4.3 Ghana

IM provided technical support to Ghana's Environmental Protection Agency (EPA) between October 2013 and February 2018. The support focused on the architecture of the domestic MRV system, climate-relevant data management, QA/QC of GHG inventories, baseline scenarios and BUR and ICA preparation. Additional information on phase I activities can be consulted in the *Summary report of the first phase of the project*.⁵ During phase II, the IM project continued to provide specific support to Ghana by conducting a training event on data management for GHG inventory compilation in the waste sector in February 2018.

Also in February 2018, a final stock take in the form of a feedback discussion with the project partner took place to evaluate the results of IM project activities in Ghana.

a. Activities

Training on data management in the waste sector (14–15 February 2018): the objective of this training was to enhance the capacities of local staff and national experts in the estimation and reporting of GHG emissions in the sector, to improve the sector's GHG inventory and to enhance capabilities for identifying potential reductions in GHG emissions from waste. The training addressed preparation of GHG inventories in the waste sector according to the 2006 IPCC Guidelines, data collection and management, waste composition and landfill categorisation and the identification of GHG emission reduction potentials. It also provided an opportunity for exchanges among staff from the national and subnational levels on institutional arrangements and waste data needs for the compilation of the GHG inventory.

Figure 7. IM participants in Koforidua, Ghana (Source: GIZ IM)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in Ghana can be summarised as follows:

- Enhanced understanding of the preparation of GHG inventories in the waste sector and the inclusion of information on data management and possible sources of relevant data.

⁵ <https://www.transparency-partnership.net/documents-tools/summary-report-first-phase-project>

Government officials working on waste are familiar with the different categories of landfill sites and the concept of waste composition analysis.

- Strengthened capabilities in using the 2006 IPCC Guidelines to estimate GHG emissions in the waste sector.
- Enhanced understanding of the needs and uses of data obtained at the subnational level.
- Foundations laid for the improvement of institutional cooperation among national and regional/local stakeholders in the waste sector.

4.4 Philippines

The IM project was active in the Philippines between September 2013 and August 2017, providing technical support to the Climate Change Commission (CCC) by addressing specific demands for capacity building support to establish a sustainable MRV system and to prepare national climate change reports. Additional information on phase I activities can be found in the *Summary report of the first phase of the project*.⁶ During phase II, support was provided to build on the results of the first phase, further strengthening climate information management and enhancing the capacity of the Philippines in its reporting to the UNFCCC. Three additional events were held under the project. In February 2017, IM conducted a training workshop on the uncertainty analysis of GHG data, and in August 2017 an orientation workshop was held on the 2006 IPCC Guidelines and Software for GHG inventories for AFOLU. Lastly, the project concluded with a summary workshop and closing event on capacity building and lessons learned for enhancing transparency and climate reporting in the Philippines.

a. Activities

Training on uncertainties in GHG inventories (February 2017): the overall objective of the training workshop was to provide the GHG inventory compilers and data suppliers from various sectors with a comprehensive understanding of the concept of uncertainty estimates and how to use this information to improve the national GHG inventory. Key topics addressed were a) the basic concept of uncertainty analysis, b) calculation of sector-specific uncertainties using the 2006 IPCC Guidelines and c) preparation of a QA/QC plan. Hands-on group working sessions helped participants to internalise and practise the theoretical input provided by the experts.

The CCC requested support for the further elaboration of the National Integrated Climate Change Database and Information Exchange System (NICCDIES), which includes both domestic and international resources and incorporates climate change budgeting, a tool that assists in assessing support needs (technical, financial and capacity building), as it allows a comparison to be made between resources needed and local resources available. Further support entailed a review of the concept for a country-specific domestic MRV system for harmonisation with the NICCDIES, advice on the NICCDIES interface and IT infrastructure, and support in the development of templates and criteria indicators for the NICCDIES.

Orientation workshop on the 2006 IPCC Guidelines and Software for the AFOLU sector (August 2017): the aim of the workshop was to enhance the capacities of government agencies involved in preparing and reporting GHG inventories for the AFOLU sector, using both the 2006 IPCC Software and the agriculture and land use (ALU) national GHG inventory software, and to increase the participants' understanding of their applicability according to their respective needs.

Closing event (August 2017): this event concluded the IM project in the Philippines by looking back at the technical capacity needs identified in the gap analysis conducted in 2013 and summarising how they were addressed throughout the implementation of the project up to August 2017.

⁶ <https://www.transparency-partnership.net/documents-tools/summary-report-first-phase-project>

Figure 8. IM participants attending the sixth capacity building mission in Manila (Source: GIZ IM)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in the Philippines can be summarised as follows:

- The CCC further improved the NICCDIES design, taking the database a step forward to publication.
- Inventory compilers from different sectors have the expertise to improve the quality of upcoming GHG inventories, by conducting comprehensive uncertainty analyses using sectoral data.
- The staff of government agencies involved in GHG inventory compilation in the AFOLU sector know how to use the 2006 IPCC Software and are aware of its advantages and disadvantages. The agencies have the knowledge required to decide whether to apply the 2006 IPCC Software or the ALU software.

4.5 Ad-hoc Facility

In addition to support provided to its individual partner countries, IM offered support to a number of additional countries, upon request, in the context of its flexible Ad-hoc Facility. Specific needs identified by requesting countries in relation to BUR reporting and related MRV arrangements were addressed through one-off, short-term activities, such as capacity building workshops, training events or the provision of expert advice/backstopping.

4.5.1 Malaysia

a. Activities

Ad-hoc support was provided to Malaysia in the form of a capacity building training event on the use of the 2006 IPCC Guidelines for the energy and IPPU sectors, preceded by a desk review of Malaysia's GHG inventory for the years 2013 and 2014 for those sectors. The activity was co-organised by the Ministry of Natural Resources and Environment and UNDP in Malaysia and conducted in cooperation with the GIZ project PROKLIMA for the F-gases. The workshop took place in April 2017 in Putrajaya, Malaysia.

The objective of the workshop was to provide feedback to Malaysia on its GHG inventory for the energy and IPPU sectors, to discuss the findings with national stakeholders and to enable the country to move on from the 1996 IPCC Guidelines to the 2006 Guidelines for the next GHG inventory. It further aimed to enhance the understanding and capacities of personnel involved in the compilation of the GHG inventory, the provision of information to meet activity data requirements, the application of calculation methods and the use of emission factors in the energy and IPPU sectors. In addition, it provided representatives from a wide range of institutions, such as ministries, commissions and the private sector, with an opportunity to discuss challenges and options for improving the national sectoral GHG inventories.

Figure 9. Workshop in Malaysia (Source: NIRAS)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in Malaysia can be summarised as follows:

- Enhanced understanding on the requirements for activity data, emission factors and calculation methods for the estimation of GHG inventories in the energy and IPPU sectors and in the application of the 2006 IPCC Guidelines.
- Identification of improvements to be made to the GHG inventory in these sectors for future reporting.

4.5.2 Kyrgyzstan

a. Activities

Under its Ad-hoc Facility, IM conducted a capacity building workshop in June 2017, with the aim of enhancing understanding on how to set up an MRV system, with a focus on the GHG inventory system, and prepare for the first BUR. Topics addressed included the overall reporting cycle, BUR requirements, the IPCC Guidelines for the preparation of GHG inventories and the main elements of institutional arrangements, such as the need to define roles and responsibilities, quality control, archiving and continuous improvement. In addition, good practices and experiences from other developing countries were presented, and possible future reporting requirements for transparency were considered.

Kyrgyzstan's third NC was analysed according to the standards of the ICA technical analysis, thereby introducing the concept of the ICA process and its various components.

The workshop was attended by participants from different ministries, agencies and institutes in Kyrgyzstan as well as representatives from Kazakhstan and Tajikistan.

Figure 10. Workshop in Kyrgyzstan (Source: NIRAS)



b. Experiences and results

The experiences and preliminary results of the implementation of IM in Kyrgyzstan can be summarised as follows:

- IM brought together relevant stakeholders to consider reporting requirements under the UNFCCC and discuss institutional arrangements for Kyrgyzstan.
- The activity helped to initiate a process among the institutions involved to define next steps for the preparation of the BUR, taking into account sector-specific information from the third NC, which were summarised in the form of a high-level strategy.

4.5.3 Lebanon

a. Activities

Under its Ad-hoc Facility, IM conducted a capacity building activity for Lebanon, consisting of two missions to Beirut in January and February 2018. The activities focused primarily on developing procedures, standards and protocols for setting up a reporting management system that will enable Lebanon to prepare its NCs and BURs on a sustained basis and with its own national staff. After an initial stock take, several workshop sessions took place with representatives from the Ministry of Environment (MoE) Air Quality and Waste Units, the Ministry of Agriculture (MoA) and the Ministry of Energy and Water (MoEW).

The workshops focused on strengthening the institutionalisation of GHG inventories to enhance the country's reporting to the UNFCCC. To this end, standards, including forms and documentation sheets, and transparent and sustainable procedures for institutional arrangements were developed. Steps were also taken to harmonise archiving, develop procedures for QA/QC and formulate a long-term plan for several upcoming reporting cycles with clear targets for improvement in key areas. In addition, the 2006 IPCC Guidelines were introduced and applied to the national GHG inventory in hands-on exercises to enable the country to use these guidelines in future reporting.

b. Experiences and results

The experiences and preliminary results of the implementation of IM in Lebanon can be summarised as follows:

- IM brought together practitioners and high-level stakeholders from different ministries to consider and decide on the institutional arrangements necessary for producing the national GHG inventory in a sustainable way. Despite various earlier attempts, these were the first workshops on GHG inventories attended by both the MoA and the MoEW. The IM activities benefitted from an earlier regional workshop of the Partnership on Transparency in Rome in 2017, which contributed to strengthening relations between the MoE, MoA and MoEW and increasing understanding of the benefits of GHG inventories.
- The IM workshops resulted in an agreement between the MoEW and the MoA to sign a memorandum of understanding (MoU) with the MoE to cooperate in developing the GHG inventory for the second BUR. This MoU will allocate clearly defined responsibilities and specify a timeframe and the type of data necessary.
- The Lebanese experience can be considered good practice for institutionalising the reporting of GHG inventories in a sustainable way. In addition to the MoU, national MoE staff must now take over the responsibility of preparing the BUR and NC from UNDP staff.

V. Cross-cutting activities and impacts of IM

5.1 Peer-to-peer exchange

Peer-to-peer exchanges have been one of the key means to enhance the transfer of knowledge and good practices among the partner countries. They provide a space to share experiences and learn from each other's knowledge and varied approaches. A peer-to-peer exchange workshop for the project's second phase took place from 3 to 4 April 2017 in Dessau, Germany, at the headquarters of the UBA. It brought together representatives from IM partner countries Chile, Colombia, the Dominican Republic, Ghana, Georgia and Viet Nam as well as from GIZ and the UBA.

a. Main findings

The peer-to-peer session provided a platform for IM partner countries to deepen their knowledge for reporting under the UNFCCC, complementing the in-country activities conducted under the project. As part of the activities and discussions among the countries during the workshop, the following generic findings emerged:

- BUR preparation benefits from developing and putting in place legal instruments (e.g. decrees) to support the process and functions of the lead institution.
- It is important to have dedicated sectoral teams with clear roles for inventory compilation.
- There is value in implementing a national QA/QC plan, maintaining an online data hub and ensuring that there are technical focal points at line ministries and other major data or information providers.
- It is useful to define a timeline for the MRV cycle and work on the basis of existing structures rather than designing new ones. The following were seen as common success factors: continuous evaluation and improvement, decentralisation of tasks, designating a coordination entity and defining the coordinator's role, archiving data and, most importantly, understanding that establishing a functional MRV system takes time.

The workshop further explored other uses of the MRV system, such as helping to plan economic development, prioritising mitigation actions at the regional level and planning and tracking mitigation actions (e.g. carbon taxes). Under the Paris Agreement, MRV systems can help to evaluate progress towards achievement of nationally determined contributions (NDCs). They are also an excellent tool to monitor the co-benefits of mitigation actions and can help governments to design climate policies.

Countries also shared their experiences on BUR compilation regarding GHG inventories, mitigation actions and support needed and received, drawing the following conclusions.

GHG inventory compilation

- Consistency in time series poses technical challenges.
- Recalculations of the time series must be undertaken with care and expert judgment but are an important tool to ensure consistency in time series.
- Use of existing data collection processes, such as those in place under national statistics offices, can increase efficiency and shorten timelines.

Reporting on mitigation actions

- Efforts should be made to estimate the emission reduction potential and the expected impact of mitigation actions.
- Depending on the type of action, different types of indicators should be used to measure the performance of the action, such as inputs, GHG effects and non-GHG effects.
- Related measures should be combined when the effects of different mitigation actions cannot be easily separated.

Reporting of support needed and received

- The amount of international financial support may depend on the level of detail and transparency achieved in reporting.
- A pre-defined characterisation of what constitutes climate support may help in identifying and allocating financial flows relevant for reporting.

The characterisation of financial support could be developed at the national level or using international frameworks (for example, the UNDP's Climate Public Expenditure framework). A *Summary Report of the Peer-to-Peer Exchange Workshop 2017* can be found [here](#).

b. Experiences and results

The peer-to-peer exchange under the IM project generated the following experiences and results:

- It fostered a south-south exchange of experiences on the various stages of BUR preparation and participation in the ICA process.
- It provided an opportunity to share knowledge and experiences among partner countries on potential solutions to challenges in BUR preparation, such as political buy-in, institutional issues and information and data gaps.
- It enhanced understanding of barriers to the BUR and ICA processes and identified ways to overcome them based on other countries' experiences in efforts required and lessons learned, which in turn will help the countries improve their own future BUR compilation.

Figure 11. Presenting the outcomes of a group exercise at a peer-to-peer session in 2017 (Source: NIRAS)



5.2 Knowledge products

A key component of the project was the development of KPs in the form of guidance documents, tools and other materials, based on the experience gained during the activities implemented with the partner countries. Through these products, experiences from the project are shared with other countries not involved in the project to support them in their reporting efforts. During the second phase of the project, the following KPs were made available on the IM website (see [Table 3](#)).

Table 3. List of knowledge products (KPs) improved or developed under phase II of the IM project (Source: Partnership on Transparency)

Tool	Short description	Link
National benefits of climate reporting (2018)	<p>This study provides recommendations to capitalise on other benefits of the reporting process for NCs and BURs. It contains examples of these benefits and how to deploy them.</p> <p>To be published in English, French and Spanish.</p>	https://www.transparency-partnership.net/documents-tools/national-benefits-climate-reporting
A brief history of the German national reporting system (2018)	<p>This paper describes the development of Germany's national climate change reporting system up to the present. It looks at important milestones shaping the development of the German system UBA and international developments related to climate change reporting, particularly under the UNFCCC (and the EU).</p> <p>To be published in English.</p>	
Revised BUR Process Guidance Tool (2018)	<p>The BUR Process Guidance Tool has been developed to support countries in the process of preparing a BUR and undergoing ICA and while at the same time enhancing domestic MRV systems. It guides users through a six-step process, helping them to understand what the key steps are, what to consider when implementing these steps and what the potential time requirements would be, taking into account specific national circumstances.</p> <p>Second version available in English, and first version available in English, French and Spanish.</p>	https://www.transparency-partnership.net/documents-tools/bur-process-guidance-tool
Biennial Update Report Template (2017)	<p>A template developed on the basis of the UNFCCC guidelines for the preparation of BURs (UNFCCC decision 2/CP.17, annex III). The template sets out a proposed BUR structure and provides guidance on how to present the required information, including table formats. It also contains guiding questions to assist in the drafting of the chapters. It further builds upon the experience of the project partner countries, the sharing of lessons learned at regional workshops and application of the Stock Taking Tool.</p> <p>This document is not an official UNFCCC publication nor is it endorsed by the UNFCCC.</p> <p>Available in English, Spanish and French.</p>	https://www.transparency-partnership.net/documents-tools/biennial-update-report-template

Guidance for setting up and enhancing national technical teams for GHG inventories in developing countries (2017)	<p>In a step-by-step process, the Guidance for setting up and enhancing national technical teams for GHG inventories in developing countries aims to assist developing countries in meeting a significant part of their reporting requirements under the UNFCCC, i.e. the national GHG inventory, by setting up or enhancing national technical teams for the preparation and reporting of GHG inventories on a regular basis within a national system of GHG inventories. Besides the step-by-step process, this paper provides additional guidance on strategies to support the sustainability of technical teams for GHG inventories.</p> <p>Available in English and Spanish.</p>	https://www.transparency-partnership.net/documents-tools/guidance-setting-and-enhancing-national-technical-teams-ghg-inventories-developing
Preparing for the ICA process: Required efforts and capacities needed (2017)	<p>This document aims to guide non-Annex I Parties in preparing for the ICA process under the UNFCCC, specifying the efforts and capacities likely to be required in its preparation.</p> <p>Available in English.</p>	https://www.transparency-partnership.net/documents-tools/preparing-ica-process-required-efforts-and-capacities-needed
Stock Taking Tool (2017)	<p>An analytical tool that countries can use to identify prioritised action for enhancing national MRV systems, including mitigation pledge(s), in the context of nationally determined contributions (NDCs), nationally appropriate mitigation actions (NAMAs) and low emission development strategies (LEDS). Its aim is to guide countries in assessing their current national mitigation architecture and to provide an information basis for planning and implementing mitigation actions.</p> <p>Available in English and French.</p>	https://www.transparency-partnership.net/documents-tools/stock-taking-tool
Main findings of the first round of ICA for BURs (2017)	<p>This document provides an analysis of the first BURs from Non-Annex I Parties that have completed at least the first step of the ICA process. By reviewing the technical analysis summary reports of 30 Parties, it examines the completeness and ambition of reporting in BURs, highlighting common challenges and the extent to which the reporting requirements have been adhered to.</p> <p>Available in English.</p>	https://www.transparency-partnership.net/documents-tools/main-findings-first-round-ica-burs

VI. Summary of main lessons learned

6.1 Key success factors and lessons learned from implementation of the IM project

The following lessons learned and key success factors emerged from implementation of phase II of the IM project:

- **Initial stock taking**
An in-depth and very detailed stock taking process has proven to be useful in designing a capacity building programme and focusing resources on the critical issues. Each country has different needs according to its context, and the stock taking and validation process was found to be fundamental to establishing a useful focus from the very beginning. It also helped to identify synergies with other MRV-related initiatives by other donors (e.g. World Bank, GEF, UNDP, UN Environment and USAID).
- **Roadmap for the implementation process**
One way to plan the implementation of a project is to define a road map and to share and validate it with stakeholders in the partner countries. It needs to be sufficiently flexible to allow for adjustments in the course of the project, as needed, and to track progress towards the envisaged objectives. Documentation (e.g. workshop reports after each activity) is essential to keep track of what has been achieved and what still needs to be addressed or improved.
- **Capacity building mission approach**
For a successful capacity building activity, the level of detail of the training needs to be tailored to the needs of the participating stakeholders. Complementing the theoretical inputs with hands-on exercises proved to be an effective way to train staff.
- **Political partner**
Achieving a good working relationship with institutions in each country is crucial to understanding the needs of the stakeholders involved. It is important to ensure the participation of key staff in the project's activities and to build upon existing practices, processes, knowledge and tools in the country.
- **Sustainability of the lessons learned**
The experience gained and lessons learned through the project were made available to a wider audience through, for instance, workshop reports, KPs and webinars.
- **Peer-to-peer exchange**
Peer-to-peer workshops were an efficient way to share experiences among countries and for participants to learn about practical solutions for overcoming commonly found challenges.
- **Backstopping processes**
Following up the capacity building missions with technical backstopping to assist with issues that were identified during the training enhances the results of the training.
- **Coordination**
Close communication with other MRV-related initiatives carried out by different donors during IM implementation (e.g. UNDP Low Emission Capacity Building (LECB) programme, Global Support Programme and GEF Implementing Agencies) is fundamental to enhance synergies and avoid overlaps.
- **Stakeholder networking**
The workshops created a platform to bring together relevant stakeholders from various institutions/ministries in the country. This can help improve the quality of reporting, e.g. through sourcing better data and information for reporting purposes.
- **Participation in IM activities**
Continuity in participation in the workshops from one session to another meant that workshop content could build upon previous workshops and knowledge generated. It also allowed trainers to gain a better understanding of the roles and tasks of the various institutions, thus enabling a more tailored focus for the respective target audience. For future workshops, participants proposed inviting more representatives from academia, e.g. universities or research institutions.
- **Project materials**

KPs have been useful in assisting countries in their development of MRV systems and the preparation of BURs and NCs, as shown by their use during IM implementation. Feedback received from other countries that have used, for example, the BUR template was also valuable in this respect.

- **Adaptation to country-specific circumstances**

Hands-on exercises based on real-life examples support the transmission of knowledge adapted to country-specific circumstances. It allows participants to apply the theoretical MRV concepts to their country-specific needs and to relate the contents of the workshops to their day-to-day work.

6.2 Main lessons learned from countries on BUR preparation and the ICA process

- While the compilation and submission of a BUR is an international requirement, the information they contained is of key relevance to the countries themselves in many ways, for example, in steering mitigation actions to achieve their climate-related goals, managing the support received and complementing national resources to work towards these goals.
- In climate change reporting, it is important to develop a plan or roadmap for the reporting cycle, covering data collection and analysis as well as communication of results. This is most beneficial when the roles, responsibilities and expected outcomes are clearly defined and ideally include steps for continued improvements or follow a Plan-Do-Check-Act/Follow-up cycle to undertake and evaluate the work of improving national reporting over time.
- A clearly defined leader for the BUR process is important. The BUR process is a complex coordination effort involving many stakeholders that benefits greatly from having a central entity with sufficient authority to oversee the reporting cycles.
- A clear and effective definition of roles and responsibilities in all the agencies involved in BUR preparation can reduce delays, improve communication channels and make good use of international resources. This is especially true when more than one institution oversees the reporting process.
- All activities related to BUR preparation should be well understood by participants at different levels and from different agencies, preferably in a systematic way with protocols, roles, responsibilities, management of activity data and templates, QA/QC procedures and archiving procedures. This will contribute to the sustainability of the process over time.
- Establishing a protocol for the data providers to deliver their information makes the reporting process more effective. When entities have to give the same data more than once to different national authorities, unnecessary additional costs are generated.
- The existence of clear legal arrangements, such as decrees, laws, MoUs or similar, to support MRV systems facilitates institutional collaboration and the delivery of information.
- It is important to have a framework for the protection of sensitive data from private sector actors concerned about their commercial information and competitiveness.
- The ICA process is an opportunity to receive feedback from international experts to improve the next reporting cycle. At the same time, it provides opportunities to take part in the process of analysing other national reports, through the UNFCCC roster of experts.
- A key element of successful participation in the ICA process is a good understanding of its aims and limits. It is important for countries to understand its nature, i.e. it is not intended as a compliance exercise but aims to support capability in compiling high quality BURs and to help the Party subject to ICA identify capacity building needs where necessary. Countries can benefit from the process if they seize this opportunity by engaging actively.
- Countries found it much easier to anticipate the ICA process and prepare for it when they had already undergone voluntary peer-to-peer reviews of their national GHG inventories and/or when elements of a national MRV system were in place.
- Countries can contribute to a smooth ICA process by ensuring that the same experts and institutions responsible for the various components of the BUR are also available to participate in the ICA and respond to feedback and questions. If the consultants that prepared the BUR are no longer available, more intensive preparation may be needed for the ICA process.

- Countries can use the opportunity to learn from other countries that have already undertaken the ICA process and/or participated in informal or peer-to-peer exchanges or reviews with other countries (both developed and developing countries). Knowledge and experience can be shared at events where country stakeholders and international experts gather to address matters related to mitigation and transparency, especially regional meetings.
- An important national benefit of the effort to participate in the ICA process is that feedback can be transformed into improvements for the next reporting cycle. The BUR coordinator or QA/QC coordinator (or equivalent) in the national BUR team should therefore compile feedback on all elements of the BUR, as follows:
 - prioritise the most important elements for improvement, as identified by the team of technical experts;
 - assess how these changes could be incorporated permanently;
 - request/secure the resources needed to implement the improvements;
 - introduce QA/QC activities to monitor the changes, including stakeholder reviews;
 - generate, where necessary, new interinstitutional agreements to obtain the information needed to support the changes consistently over time.

6.3 Main barriers/challenges and how to overcome them

IM closely examined the main barriers and challenges for its partner countries when establishing or improving institutional arrangements and MRV systems and preparing BURs. Some of the constraints observed are listed below, with recommendations on how to overcome them.

Clear definition of responsibilities

- The lack of a single authority for reporting to the UNFCCC is at the root of many barriers. Factors such as a lack of resources and weak cooperation among institutions with relevant information for GHG inventories and BURs generate important barriers to sustainable reporting.
 - This can usually be overcome with a high-level approach designating clear roles and responsibilities to a coordinating entity and its work team and to the data suppliers. Other options include the implementation of an executive oversight committee with the role of facilitating collaboration among agencies and all the intermediate processes.

Budget and data availability

- The establishment of MRV usually comes up against different types of problems, such as the lack of an operational budget.
 - This can be solved temporarily with international support.
- With regard to data availability, it is often the case that information and data exist, but there is no established communication channel for the flow of data. This problem may be compounded when there are no mandates for information sharing designed to generate climate information for national reports. A different kind of problem occurs when there is a clear lack of data.
 - To overcome this situation, it can help to define a map of all the data workflows and the legal framework for information provision. This can give a better understanding of the types of changes needed to allow the compilation of information for BURs, such as new laws and the development of activity data protocols.

Compilation of a national GHG inventory





- GHG inventories are at the core of BURs and will be fundamental under the Enhanced Transparency Framework established in the Paris Agreement. Countries face different problems, ranging from a lack of technical expertise to retaining staff. In order to overcome these constraints, it is suggested to establish permanent national GHG inventory systems and train national experts.
- Once systems are established, the biggest challenge is ensuring the sustainability of the GHG inventory team and the work and responsibilities assigned to it for ongoing and future reporting cycles. There are often many challenges to ensuring the sustainability of the team, which depends to a large extent on political support and the allocation of financial resources.




- High-level internal political support is a key factor in ensuring the continuous and sustainable operation of a GHG team, especially when it comes to budget allocation and delivery of GHG-relevant data and information from data providers and stakeholders.
- The challenge of increasing the visibility of outputs could be addressed through a targeted communication strategy demonstrating the benefits of the GHG inventory data and related underlying information and data for various purposes, stakeholders and audiences.
- The setting up of a high-level committee (or similar body) is recommended to steer the GHG inventory reporting process, to take decisions on the design of the GHG inventory team and supporting arrangements, to identify needs and to manage the availability of local experts and capacity building.
- Another challenge frequently faced by GHG inventory teams that affects sustainability is high staff turnover and the shortage of GHG inventory experts in many developing countries.
- Retaining human resources requires ongoing capacity building and training (including internally and peer-to-peer exchanges). This question can also be addressed by building alliances within institutions to maintain the support needed, e.g. by involving non-government actors, such as academia.

6.4 Summary of main national activities and global results of the project

The main achievements of phases I and II are summarised below. There are specific results in each country related to the development of their MRV systems and the KPs explained in a previous section.

Table 4. Summary of IM country-specific results in phases I and II

Country	Country-specific results in phases I and II
Chile 	<ul style="list-style-type: none"> ▪ Submitted first BUR – one of the first countries to do so ▪ Improved MRV systems for NAMAs under development ▪ Secured political buy-in for MRV of climate finance ▪ Improved national GHG inventory ▪ Enhanced institutional arrangements for GHG inventory and MRV ▪ Prepared for and participated in the ICA process
Dominican Republic 	<ul style="list-style-type: none"> ▪ National experts developed GHG inventory for the first time ▪ Laid foundations for third NC and first BUR ▪ Identified and applied synergies between NCs and BUR ▪ Compiled first report on financial support
Ghana 	<ul style="list-style-type: none"> ▪ Submitted first BUR ▪ Successfully integrated MRV elements into existing monitoring and evaluation structures ▪ Improved planning of mitigation actions ▪ Improved GHG inventory ▪ Improved cooperation among national and local administration ▪ Enhanced the QA/QC system ▪ ICA preparation
Philippines 	<ul style="list-style-type: none"> ▪ Laid foundations for first BUR ▪ Applied elements of climate-relevant data management in development of the National Integrated Climate Change Database and Information Exchange System (NICCDIES) ▪ Compiled MRV primer

Colombia 	<ul style="list-style-type: none"> ▪ Analysed institutional arrangements and proposed improvements ▪ Improved the GHG inventory through training in the energy, IPPU and waste sectors and conducted expert review of the national GHG inventory ▪ Improved institutional arrangements through support for enhanced inter-agency collaboration, including for the application of protocols and procedures to implement improvements from the third NC and the second BUR. ▪ Laid foundations for an improved second BUR ▪ Enhanced cooperation and engagement of various government institutions in GHG inventory and BUR compilation.
Georgia 	<ul style="list-style-type: none"> ▪ CCU successfully participated in the ICA process ▪ Laid foundations for an improved second BUR ▪ Increased understanding of HFC emissions and improved cooperation with private companies (HFC importers) ▪ Enhanced capacity of Georgian experts in the use of the 2006 IPCC Guidelines ▪ Laid foundations for the establishment of a QA/QC plan for the GHG inventory ▪ Raised awareness on the reporting process under UNFCCC among relevant stakeholders (GeoStat, ministries, etc.) ▪ Developed a clear roadmap for the transformation of its institutional arrangements
Viet Nam 	<ul style="list-style-type: none"> ▪ Submitted second BUR ▪ Improved the mitigation reporting section and the information on support received in the second BUR ▪ Enhanced GHG inventory technical capacities

6.5 Outlook and next steps

The IM project has built capacities in sustainable climate change-related reporting in its selected partner countries. It has provided tailored capacity building in each country based on the needs identified and agreed with the partner institution. From a general perspective, however, at the time of writing, only 39 of the 155 developing country Parties had submitted their first BUR. There is still therefore room for improvements in overall reporting, and IM could continue its support to countries that have recently submitted a NC but not yet a BUR. This could be carried out, in particular, through the project's flexible Ad-hoc Facility which will continue to operate during the third phase and allow the project to support other countries on individual topics related to BUR preparation and MRV upon request. The IM project has a strong basis that will enable it to respond to such requests and support more countries by building and strengthening their capacities for enhanced reporting in the years to come.

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