

Improvement of QA/QC in Vietnam by JICA supported project for National GHG inventory

The Project for Capacity Building for National Greenhouse Gas Inventory in Viet Nam

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Background of the GHG Inventory Project in Vietnam

- GHG inventories provides fundamental information for developing/monitoring climate change policies and measures.
 - For example: National GHG Inventory provides...
 - Base data for quantitatively examining the progress or achievement of projects relevant to mitigation measures in a country
(e.g.: the Vietnamese National Target Programme for responding climate change)
 - Base data for developing quantitative future forecast for the Low Carbon Development Strategy
- The Government of Vietnam requested the Government of Japan to support improving Vietnam's GHG inventory preparation system in order to overcome issues on the present system, such as insufficient accuracy/consistency of GHG inventory data and lack of QA/QC system.

Objective and Counterpart of the Project

* **Objective of the Project**

- * To strengthen Vietnam's capacity to prepare accurate, reliable and periodical national GHG inventories

* **Vietnam-side Counterparts for the Project**

* Responsible Agency:

- * Department of Meteorology, Hydrology and Climate Change (DMHCC) of the Ministry of Natural Resources and Environment (MONRE)

* Cooperating Agencies:

- * Institute of Meteorology, Hydrology and Environment (IMHEN)
- * Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)

Expected Outputs of the Project

- * **Output 1: Development of National System**
 - * Capacity to periodically and systematically collect and compile necessary data for national GHG inventories is enhanced.
- * **Output 2: Enhancement of the awareness of importance of GHG inventories**
 - * Capacity to promote understanding of national GHG inventories in relevant ministries and agencies is enhanced.
- * **Output 3: Improvement of estimation methods in each sector**
 - * Capacity to manage quality assurance/quality control (QA/QC) of GHG inventories is enhanced for each sector (energy; industrial processes; agriculture; land use, land-use change and forestry [LULUCF]; and waste).

Detailed Activities for Output 1 (related to QA/QC)

* Output 1: Development of National System

- * Capacity to periodically and systematically collect and compile necessary data for national GHG inventories is enhanced.

Activity No.	Description of Activities
Activity 1-1	Examine the existing system for preparing national GHG inventories and assess current capacity of DMHCC and other relevant parties involved in the preparation
Activity 1-2	Study methods for cross-cutting QA/QC of national GHG inventories
Activity 1-3	Prepare a roadmap for improving the national system for GHG inventory preparation
Activity 1-4	Draft and improve a manual for institutional arrangement for preparing national GHG inventories
Activity 1-5	Collect necessary data for inventory from relevant parties
Activity 1-6	Develop a database, consisting of file systems, of national GHG inventories
Activity 1-7	Compile national GHG inventories with time series consistency
Activity 1-8	Implement cross-cutting QA/QC activities for national GHG inventories
Activity 1-9	Draft and improve manuals for procedures of inventory compilation and cross-cutting and each sector's QA/QC activities
Activity 1-10	Draft and improve a national GHG inventory improvement plan

Results of Step 1 of Activity 1-2

- QA/QC System

* Activity 1-2:

- * Study methods for cross-cutting QA/QC of national GHG inventories
 - * Step 1: Investigate the Vietnamese status of implementing quality assurance/quality control (QA/QC) activities when Vietnam prepared the SNC.

Draft Results of the Investigation of Step 1 of Activity 1-2

- 1 The particular QA/QC procedure and system in accordance with GPG (2000) has not been established during the implementation of SNC
- 2 There is no QA/QC plan yet.
- 3 It is not carried out the checking of uncertainty assessment and key source category analysis by independent entities.
- 4 However, professional experts with good expertise were hired by contracting with them for the works of checking and testing activity data used for the GHG inventory in SNC. (These works seem to be a kind of QC activities.)
- 5 Thematic workshops for GHG inventory results were organized 2 times for reviewing and collecting comments on the GHG inventory in SNC. (These workshops seem to be a kind of QC activities.)
- 6 The reviews for SNC, including GHG inventory, were implemented through the process of finalization of SNC. (These reviews seem to be a kind of QC activities.)

Research Results on QA/QC in Vietnam's SNC Preparation

Step	Inventory Preparation Process for Vietnam's SNC
1	To organize kick-off meeting, then setting up work plan for GHG inventory
2	To carry out GHG inventory data collecting, analyzing, checking and gaps reducing. To identify appropriate methods & emission factors (EFs) source by source and decide EFs to be used.
3	To prepare initial estimates and draft Technical paper
4	To carry out key source analysis and uncertainty assessments.
5	To organize thematic workshops for GHG inventory results and to review, comment and incorporate comments.
6	To finalize GHG inventory and submit GHG Inventory to UNFCCC
7	To archive data on the GHG inventory in the SNC

Research Results on QA/QC in Vietnam's SNC Preparation

- * **Activities which can be regarded as QC activities under the SNC preparation**
- * Step 3: To prepare initial estimates and draft Technical paper
 - * After the initial estimates of the GHG inventory in SNC were drafted, **Vietnamese professional experts checked and reviewed the drafted GHG inventory.**
 - This can be regarded as an internal QC activity.

Research Results on QA/QC in Vietnam's SNC Preparation

Activities which can be regarded as QC activities

Step 5: To organize thematic workshops for GHG inventory results and to review, comment and incorporate comments.

The 1st Thematic Workshop: 23 June, 2007

The objectives of the workshop include

- To report the collecting, analyzing, synthesizing the data on Energy, LULUCF, Industrial progress, Agriculture, Waste sectors to be used on GHG inventories 2000 under Vietnam Second National Communication
- To discuss with participants in the workshop on the presented reports on data for the GHG inventory.
- Organizer: DMHCC, MONRE
- Participants: 30 people
 - Research Institutes,
 - Relevant ministries, such as:
 - Ministry of Trade and Industry,
 - Ministry of Foreign Affairs,
 - Ministry of Construction, and so on

Research Results on QA/QC in Vietnam's SNC Preparation

Activities which can be regarded as QC activities

Step 5: To organize thematic workshops for GHG inventory results and to review, comment and incorporate comments.

The 2nd Thematic Workshop: 17 September, 2008

The objectives of the workshop include

- To Introduce the results of national GHG inventory for the year 2000 in Vietnam on Energy, LULUCF, and Agriculture
- To discuss with participants in the workshop on the presented reports on the GHG inventory for the three sectors.
- Organizer: DMHCC, MONRE
- Participants: 84 people
 - Research Institutes,
 - Relevant ministries, such as:
 - Ministry of Industry and Trade,
 - Ministry of Agriculture and Rural Development,
 - Ministry of Construction, and so on

Research Results on QA/QC in Vietnam's SNC Preparation

Activities which can be regarded as QC activities

Step 6: To finalize GHG inventory and submit GHG Inventory to UNFCCC as a part of the SNC

Process of finalization of the GHG inventory includes 3 steps of “Review Process”.

- 1st Review was implemented by research institutes and departments under MONRE.
 - Entities which reviewed the 1st draft:
 - IMHEN
 - ISPONRE
 - Department of International Cooperation, MONRE
 - General Department of Environment, MONRE
 - Department of Science and Technology, MONRE
 - National Hydro-Meteorological Services, MONRE
 - Dr. Pak Sum Low, UNESCAP
- DMHCC, in cooperation with national experts, revised the 1st draft of GHG inventory by referring to the comments from the reviewing entities.

Research Results on QA/QC in Vietnam's SNC Preparation

Activities which can be regarded as QC activities

Step 6: To finalize GHG inventory and submit GHG Inventory to UNFCCC as a part of the SNC Process of finalization of the GHG inventory includes 3 steps of "Review Process".

- 2nd Review was implemented by the Assessment Board of Second National Communication.
 - The Board's official meeting has been held on 20th August, 2010, and the Board members examined, verified and approved the 2nd draft of SNC, including the GHG inventory.
- DMHCC, in cooperation with national experts, revised the 2nd draft of GHG inventory by referring to the comments from the Assessment Board.

Research Results on QA/QC in Vietnam's SNC Preparation

Activities which can be regarded as QC activities

Step 6: To finalize GHG inventory and submit GHG Inventory to UNFCCC as a part of the SNC Process of finalization of the GHG inventory includes 3 steps of "Review Process".

- 3rd Review was implemented by circulating the 3rd draft to the following ministries concerned:
 - Ministry of Science and Technology,
 - Ministry of Foreign Affairs,
 - Ministry of Agriculture and Rural Development,
 - Ministry of Industry and Trade,
 - Ministry of Planning and Investment, and
 - Ministry of Finance.

→ DMHCC, in cooperation with national experts, revised the 3rd draft of SNC, including the GHG inventory, by referring to the comments from ministries concerned, finalized the SNC, and submitted the SNC to the Government for approval.

Research Results on QA/QC in Vietnam's SNC Preparation

- **Good Points:**

- Some activities which could be regarded as QA/QC have already been actually implemented.
 - These activities can become a basis for developing a QA/QC system in Vietnam.
- The activities were implemented not only by MONRE but also under the participation of other relevant ministries and agencies.
 - This cooperative relationship between MONRE and other ministries and agencies will be important when the Vietnamese QA/QC system will be developed.
- The activities were implemented under the process determined in the work plan for preparing the SNC.
 - The previous work plan will be a good reference when the QA/QC activities are systematized.

Research Results on QA/QC in Vietnam's SNC Preparation

- Points necessary to be improved:
 - The activities were not clearly defined as “QA/QC activities”.
 - Definitions of QA/QC activities need to be established.
 - The QA/QC plan was not developed clearly.
 - The QA/QC plan needs to be developed according to the Vietnamese situation.
 - The process of implementing the activities was not systematized and documented.
 - The process of QA/QC activities needs to be systematized and documented.
 - Items reviewed and verified under the activities were not listed clearly.
 - Items to be reviewed and verified through QA/QC process need to be clarified and listed in the QA/QC plan.

Plan for improving the Vietnamese QA/QC activities under the JICA project

The Vietnamese QA/QC plan will be developed and improved through preparation of the 2005 and 2010 GHG inventory.

The process of developing the Vietnamese QA/QC plan:

(through the preparation of the 2005 GHG inventory [the First inventory preparation])

1. The JICA expert group will conduct **lectures on cross-cutting QA/QC methods** described in GPG (2000) to the Vietnamese Project Team (VPT),
2. The JICA expert group will **explain QA/QC activities implemented in Annex-I Parties** including Japan, to the VPT **as references** for the VPT to develop the Vietnamese QA/QC plan,
3. The VPT, in cooperation with the JICA expert group, will **formulate a cross-cutting QA/QC activity plan** to be applied to the first inventory preparation under the project,
4. GIO will conduct **a technical assessment on the QA/QC activity plan** that the VPT considers and formulates, and provide the VPT comments on the QA/QC plan,
5. DMHCC will **confirm the validity of the prepared QA/QC activity plan**, through **consultation with other relevant ministries and agencies**.

Plan for improving the Vietnamese QA/QC activities under the JICA project

The process of improving the Vietnamese QA/QC plan: (through the preparation of the 2010 GHG inventory [Second inventory preparation])

1. The VPT, in cooperation with the JICA expert group, will **analyze QA/QC activities** in the first inventory preparation.
2. The VPT, in cooperation with the JICA expert group, will **revise the QA/QC activity plan** for application to the second inventory preparation,
3. DMHCC will **confirm the validity of the revised QA/QC activity plan**, through **consultation with other relevant ministries and agencies**.

Thank You!

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