

## **The 9th Workshop on GHG Inventories in Asia (WGIA9)**

### **Capacity building for MRV**

13-15 July 2011, Phnom Penh, Cambodia

The Ministry of the Environment of Japan (MOEJ) and the National Institute for Environmental Studies (NIES), jointly with the Ministry of Environment of Cambodia (MOEC), convened the 9<sup>th</sup> Workshop on Greenhouse Gas Inventories in Asia (WGIA9) on 13-15 July 2011 in Phnom Penh, Cambodia, as a capacity building workshop for MRV. The workshop was attended by 75 experts from fourteen WGIA-member countries (Cambodia, China, India, Indonesia, Japan, the Republic of Korea (RoK), Lao P.D.R., Malaysia, Mongolia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam), as well as the Technical Support Unit of the Task Force on National Greenhouse Gas Inventories of the Intergovernmental Panel on Climate Change (IPCC TFI TSU), the United States Environmental Protection Agency (USEPA) and the Regional Capacity Building Project for Sustainable National Greenhouse Gas Inventory Management Systems in Southeast Asia (SEA GHG Project). The Greenhouse Gas Inventory Office of Japan (GIO) under the Center for Global Environmental Research (CGER), NIES, functioned as WGIA Secretariat.

The objectives of the workshop were:

- to report the latest national communications (NCs) (inventories) being submitted to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat,
- to discuss future activities beyond the latest inventories,
- to clarify the relationship between inventory and mitigation measures,
- to implement mutual learning, and
- to discuss sector-specific issues.

The welcome address was delivered by Ms. Ayako Suzuki, Deputy Director of the Low-carbon Society Promotion Office, MOEJ, followed by the welcome address delivered by H.E. Thuk Kroeun Vutha, Secretary of State, MOEC. The workshop was chaired by Mr. Kiyoto Tanabe, NIES Researcher of the GIO.

The experts discussed various subjects of interest to Asian countries, including the recent progress made by member countries, possible future activities in each member country and the WGIA itself, and sector-specific issues. In addition, the mutual learning by means of the latest inventories between countries, which was suggested by the WGIA Secretariat and supported by the participants at the WGIA8, was conducted for the first time during the WGIA9. The outcomes of the discussions about each subject are summarized below.

Through the discussions of these subjects, the experts reaffirmed the importance of the inventory as a key tool for promoting measurable, reportable and verifiable (MRV) mitigation actions. They also recognized that one needed to keep in mind the relationship between inventory and mitigation when developing a mitigation measure and collecting data for inventories in order to reflect the effects of mitigation actions on the inventory in a timely manner. Taking into account the fact that many WGIA member countries have submitted or are about to submit their latest NCs in the near future, it was recommended that member countries start or get ready for the preparation of the next inventory. The mutual learning by means of the latest inventories implemented by some of the WGIA member countries demonstrated that it could be a good opportunity for inventory compilers to find out efficiently the points to be improved in their next inventories. Those who joined the mutual learning found this activity useful and supported its continuation. For the next workshop, the WGIA Secretariat was recommended to review the progress of the last ten years' activity of WGIA and set the agenda by taking into account the outcome of the upcoming seventeenth session of the Conference of the Parties under the UNFCCC (COP17). Through this workshop, the network of WGIA-member countries was further strengthened.

The workshop was closed with closing remarks by Mr. Sum Thy, Director of Department of Climate Change of MOEC, and by Dr. Yukihiko Nojiri, Manager of GIO.

## **Report of the latest NCs (inventories) recently submitted**

From the six member countries which recently submitted their latest NCs, Indonesia, Malaysia, Thailand and Viet Nam reported an overview of their latest NCs (i.e., second NC). The reports were made in regards to the inventory data of year 2000, which is a requirement under the second NC, points of improvement compared to the initial NCs, issues still to be addressed, and the perspective and actions being taken for the next inventory preparation. All four countries have enhanced the completeness of their inventory as well as their institutional arrangements for the inventory preparation and data collection compared to those for the initial NCs.

## **Relationship between inventory and mitigation measures**

The relationship between inventory and mitigation measures was discussed in accordance with the previous workshop's summary stating the importance of expanding the WGIA activities to enhance the usefulness of the inventory, e.g., activities to link inventories to mitigation planning and policy making support, and with the Cancun Agreements stating that all parties should report biennial reports including an updated inventory and information on mitigation actions. China, Malaysia and Thailand introduced how they used their national inventory to develop mitigation measures. Experts were of the view that the inventory, if it is appropriately compiled, could be used as a basis for developing mitigation measures and as an index for evaluating the effects of mitigation measures being implemented; therefore, the inventory was found to be useful to support the implementation of mitigation actions in a sustainable manner. On the other hand, it was also recognized that care should be taken in using inventory methodologies for mitigation planning and implementation so as to avoid unsound overestimation of mitigation effects. Furthermore, India and the Philippines reported their research activities for developing emission factors that could improve their inventory and contribute to the evaluation of mitigation measures. In the overall discussions, it was recommended that inventory compilers and those who develop mitigation measures strengthen their cooperation in order to assure the close linkage between inventory and mitigation measures.

## **Mutual Learning among WGIA-member Countries**

Mutual learning was conducted in order to improve the individual countries' own inventories through exchanging inventories between two to three countries, learning from each others' inventories and exchanging comments between each other. The target sectors in this workshop were: Energy (Indonesia and Mongolia), LULUCF (Lao P.D.R. and Japan), and Waste (Cambodia, RoK and Indonesia). The approach of this activity was: 1) exchanging worksheets used for estimating emissions and reports describing details of methodologies, 2) raising good points as well as issues of a partner country and asking questions, 3) answering to the questions. A series of processes were started three months prior to the workshop. At the workshop, further exchange of comments and clarification were made between the countries concerned in small groups for each sector. The discussions concerned not only estimation methodology but also institutional arrangements as well as background information on the emission sources and removal sinks in each country. Through the discussions, experts could understand the inventory of the partner country, and simultaneously, realize again the characteristics of their own inventory as well. Through this activity, experts confirmed that mutual learning could contribute to enhancing the quality of the MRV of the inventory, since this activity provided hints for improving not only the estimation methodologies but also the transparency of the inventory.

## Continuation of Inventory Development

As was also the case in the previous workshop, the experts were strongly encouraged to take advantage of one of the conclusions made by the Subsidiary Body for Implementation under the UNFCCC at its 30<sup>th</sup> session (June, 2009)<sup>1</sup> which allows non-Annex I Parties to submit project proposals to the Global Environmental Facility (GEF) for the funding of their subsequent NCs before the completion of their current NCs.

## **Sector-specific Issues (Waste sector, Inventory [non-CO<sub>2</sub>], Transport sector and Inventory [QA/QC])**

### Waste sector

In this working group, the WGIA Secretariat reported the result of the analysis of the questionnaire survey conducted prior to the workshop and introduced the categorization for the accuracy of waste inventory of

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<sup>1</sup> See FCCC/SBI/2009/8, paragraph 21.

each member country. Following that, member countries presented their latest inventories. The issues in regards to the elaboration of activity data and the discrepancy between emission factors and the actual condition of waste management were pointed out. For regions, where waste statistics are not fully established, a number of assumptions are included when calculating activity data. Therefore, it was pointed out that searching for statistics by region through the collaboration between departments in charge of waste, regional offices and experts of waste sector and outcomes of research and survey was needed to be conducted. Also, in regards to the regional characteristics of emission factors, enhancement of information sharing through the WGIA- and IPCC-database was suggested.

#### Inventory (non-CO<sub>2</sub> gases)

Experts exchanged information on non-CO<sub>2</sub> gases (CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFC and SF<sub>6</sub>) reported in the latest inventory of the member countries. Considering the fact that CH<sub>4</sub> from the Agriculture sector is the most significant emission source in many of the member countries, it was recognized that continuous discussions on how to improve estimation methodologies and on mitigation measures were needed. Furthermore, for those countries which have not reported F-gases yet, it was recommended that they estimate those gases, especially HFCs used as refrigerant, with a Tier 1 methodology given in the 2006 IPCC Guidelines, even though reporting of those gases was currently not required for Non-Annex I Parties.

#### Transport sector

With the increase in the number of automobiles in Asian countries, GHG emissions from the transportation sector have been rapidly increasing. In this working group, experts shared information on the emission status of each member country with special emphasis on CO<sub>2</sub>, details of estimation methodologies and mitigation measures, and also confirmed the status of this sector in each member country based on the questionnaire survey conducted prior to the workshop. The experts recognized, among others, that in order to better contribute to future mitigation work, it would become necessary to generate more precise and real-time emission inventories because the number and type of vehicles, traffic patterns, etc. were rapidly changing.

#### Inventory (QA/QC)

Against the backdrop of the Cancun Agreements, the importance of inventory preparation by developing countries has been growing and the assurance of inventory quality is expected to be a challenge. In this working group, it was confirmed that each member country had some activities practically functioning as QA/QC, even though those activities were not recognized as QA/QC activities of inventory at this moment. Also, experts reaffirmed the importance of documenting these activities and archiving, and they confirmed that these activities could become the basis for official QA/QC plans in the future.