

Summary of AFOLU Sessions

The 12th Workshop on GHG Inventories in Asia (WGIA12)

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AFOLU Working Group Session

This session was chaired by Dr. Rizaldi Boer (Indonesia)

(44 participants)

➤ Scope of Session

- WGIA member countries give presentations on the National GHG inventories' situation in AFOLU sector with focused on forest, forest soil and wetland.
- International organization and developed countries give presentation for various support projects to improve GHG inventory and relevant activities.

➤ Purpose of Session

- To explore the National GHG inventories' activities on AFOLU sector in WGIA member countries
- To exchange information on achieving, gap and supporting needs
- To share information and enhancing on network for supporting GHG inventory in AFOLU sector

Presentations:

1	Vietnam's GHG inventories –LULUCF - Forestland	Ms. Dao Minh Trang (Viet Nam)
2	Malaysia's GHG inventories on AFOLU sector: achievements, gaps and necessary supports	Dr. Elizabeth M.P. Philip (Malaysia)
3	Cambodia's GHG inventories on AFOLU sector	Dr. Chuop Paris (Cambodia)
	<i><u>Questions and Answers, Discussion</u></i>	<i><u>All</u></i>
4	REDD+ Cook Book : How to systematically deal with estimation on GHG emissions and removals in forest land sector	Dr. Mitsuo Matsumoto Forestry and Forest Products Research Institute (FFPRI), Japan
5	Supporting activities on activity data on AFOLU sector by FAO	Mr. Francesco N. Tubiello Food and Agriculture Organization of the United Nations (FAO)
6	GFOI's supporting activities on sectoral MRV issues for AFOLU sector	Dr. Simon Eggleston Global Forest Observation (GFOI)
	<i><u>Questions and Answers, Discussion</u></i>	<i><u>All</u></i>
7	Estimation of Carbon Flux and Stock in tropical peatland applying Integrated MRV System	Prof. Mitsuru Osaki Hokkaido University
8	USAID LEAD Program Support for National Inventory Systems and Carbon Stock Assessment of Mangroves	Dr. Amornwan Resanond US AID
	<i><u>Questions and Answers, Discussion</u></i>	<i><u>All</u></i>

The situations and achievements of GHG inventories on AFOLU sector

■ Vietnam

The Government of Vietnam designated the Ministry of Natural Resources and Environment as a national focal point for preparing national GHG inventories which are a part of National Communications submitted to the UNFCCC. Viet Nam already submitted its INC and SNC with the 1994 and 2000 GHG inventories, respectively. Viet Nam also compiled its 2010 GHG inventory, which will be included in its first BUR. Vietnam is presently under study to develop its national GHG inventory system.

The situations and achievements of GHG inventories on AFOLU sector

- **Malaysia**

The Forest Research Institute of Malaysia or FIRM is assigned to report the GHG emissions in the AFOLU sector of Malaysia. At present, they are preparing the BUR and TNC to report in 2015 and 2017 while they are applying the QA/QC process in the BUR to reduce the uncertainty of activity data at regional level. For their achievement, they are already developed the manual of GHG inventory for compliers and completed the GHG inventory in 2005-2010.

The situations and achievements of GHG inventories on AFOLU sector

■ Cambodia

Cambodia submitted the INC in 2002 and plan to submit the SNC in 2014. Moreover, the technical staff and the expert in GHG inventory of Cambodia were attended in the capacity building on GHG inventory and MRV programme.

The National MRV/REL team of Cambodia expected to develop:

- 1) National Forest Monitoring System (NFMS) Plan
- 2) Satellite Land Monitoring System (SLMS) for REDD+
- 3) National Forest Inventory (NFI)
- 4) Cambodia RLs/RELS framework
- 5) REDD+ related GHG Reporting System

Gaps and barriers for preparing GHG inventories on AFOLU sector

- Vietnam
 - No national GHG inventory system in Vietnam has been established which has impacted to the data collection for GHG inventory in Vietnam.
- Malaysia
 - They lack of technical knowledge of GHG inventory , and also lack of the activity data pre-2000
- Cambodia
 - Technical capacity on GHG inventory
 - Climate Change Scenario
 - Modeling for Climate Change Mitigation and Adaptation
 - Coordination and communication with line ministries/agencies
 - Resources to transfer policy papers into actual activities/result

Supporting needs

- Vietnam and Cambodia
 - A financial supports and capacity building for GHG inventories, mitigation actions and other related issues.
- Malaysia
 - Development of local emission factors for agriculture soil and manure management.
 - Simple methodologies for estimating carbon storages in and GHG emissions from harvested wood products.
 - Information sharing on experiences of how to achieve GHG inventory compilation.

Available supports

- Dr. Misuo Matsumoto introduced a “**REDD-plus Cookbook**” which was prepared and published by REDD Research & Development Center of Forestry and Forest Products Research Institute, Japan.

Target of “Cookbook”

Introduction

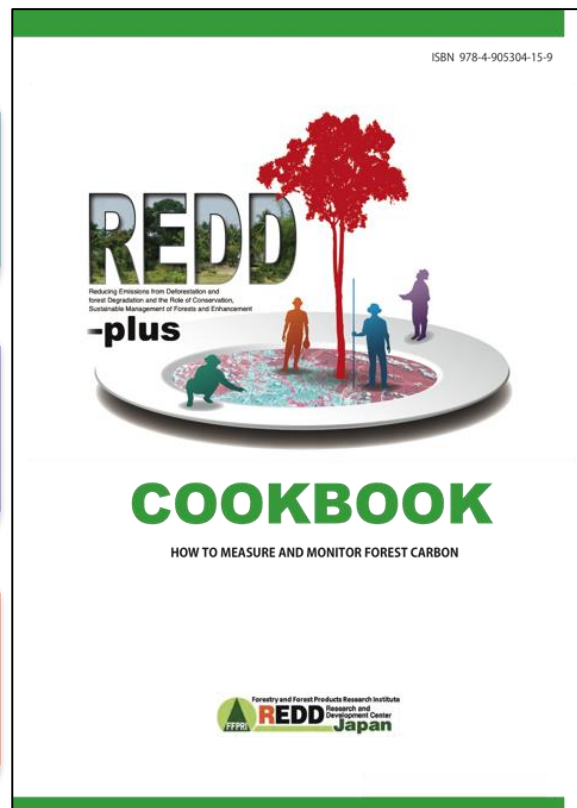
for the policy makers and their partner organizations

Planning

for the REDD-plus implementing organizations/ countries

Technical

for the experts who work on the REDD-plus activities



REDD-plus Cookbook can be downloaded on :
<http://www.ffpri.affrc.go.jp/redd-rdc/en/reference/cookbook.html>

Available supports (Cont.)

- **Mr. Francesco N. Tubiello (FAO)** presented the supporting to WGIA member countries on activity data and GHG estimation for the AFOLU sector.
- FAO introduced international activity data sources, such as FAOSTAT and FRA (Forest Resource Assessment) that contain official data through questionnaires and reported by members countries
- FAO has long maintained global datasets on Agriculture and Forest:
 - **Agricultural statistics (FAOSTAT)**
 - Production : Livestock, Crop
 - Resources: Fertilizers, Land
 - **Forestry statistics:**
 - Resources: Land (FAOSTAT)
 - Forestry: Wood Products (FAOSTAT)
 - Forest biomass (FRA)
- The new activity data produced from geo-spatial datasets are available through FAOSTAT for estimate the emission from cultivated organic soils and biomass burning.

Available supports (Cont.)

- Dr. Simon Eggleston from *Global Forest Observations Initiative (GFOI), Switzerland* presented the supporting activities on sectoral MRV issues for AFOLU sector.
- GFOI will support countries' national efforts to implement the national forest monitoring systems in accordance with relevant international standards, including: UNFCCC & IPCC, by:
 - **providing a platform for coordinating observations:** work with space agencies (CEOS) in order to assure the systematic, sustained and worldwide acquisition and supply of forest observations;
 - **providing assistance and guidance on utilising observations:** in collaboration with national institutions and international bodies such as the FAO, World Bank;
 - ✓ *develops methods, guidance and advice;*
 - ✓ *provides capacity building;*
 - ✓ *promotes ongoing research and development*

Available supports (Cont.)

- **Prof. Mitsuru Osaki from Hokkaido University** presented the *Estimation of Carbon Flux and Stock in Tropical Peatland Applying Integrated MRV System*.
- The project developed the Monitoring-Sensing-Modeling (MSM) system of Carbon in peatland by using the various kind of remote sensing data and technique to measure the key activity in tropical peatland in Indonesia.
 1. Atmospheric : Elements
 - (1) CO₂ Flux and Concentration, (2) Wildfire detection & Hotspot
 2. Above Ground Elements (Forest Biomass)
 - (3) Forest degradation & Species Mapping (4) Deforestation & forest biomass change
 3. Water Elements
 - (5) Water level, & Soil moisture (8) Water soluble organic carbon
 4. Below ground Elements
 - (6) Peat thickness & Peat dome detection (7) Peat subsidence

Available supports (Cont.)

- Dr. Amornwan Resanond introduced **The USAID LEAD program** that have the objective to builds capacity within developing Asian countries to achieve a sustainable, climate-resilient economic growth.
- The program supports planning and implementation of low emission development strategies (LEDS) through:
 - improved analytical and modeling capabilities;
 - greenhouse gas (GHG) inventories;
 - carbon market readiness; and
 - regional cooperation.
- The training was delivered through the Asian Greenhouse Gas Management Center (AGMC), a new capacity building initiative based in Thailand established through the LEAD program.

Available supports (Cont.)

- **The USAID LEAD program** have a project for regional support for carbon stock assessment of mangrove forests, in collaboration with the U.S Forest Service (USFS), conducted field training in Thailand for participants from eight Asian countries.
- Training courses included sessions on the concepts and science of the protocol, a newly developed methods that are informed by the IPCC 2013 Wetlands Supplement to the 2006 National Greenhouse Gas Inventory Guidelines.

Discussion issues in the AFOLU session

- Difference of the forest definition in each countries
 - Consistency of forest definitions used in a respective country in GHG inventory and REDD+ should be considered.
- Consistency in methodologies between GHG Inventory for AFOLU and REDD+
 - There are differences in estimation results between Gain – Loss method and Stock change method. We need to consider how to ensure consistency of estimation results on carbon stock changes between AFOLU sector in GHG inventories and REDD+ because COP decision on REDD+ requires the consistency.
 - Historical emission and FREL/FRL
- Land use categorization and data inconsistencies
 - There are differences of land-use categorization between IPCC/international categorization and each country's national official categorization.
 - Inconsistency between land-use data and land cover data from different sources in a country also exists.
 - It is necessary to develop national standard for adjusting each country's official national land-use categorization to the IPCC/international categorization in order to ensure consistency of land-use categories in GHG inventories in line with IPCC/international categorization.

Discussion issues in the AFOLU session

- Establishment of clear linkage between MRV system of REDD+ and that of national GHG inventories
 - The linkage should be established in order to ensure consistency between these two MRV systems.
- Cost effective method for forest carbon monitoring
 - We should consider possible use of remote sensing technology such as LiDAR for measuring biomass.
- Development of future IPCC Guidelines taking into account scientific advances, including the advancement of remote sensing (RS) capabilities in monitoring the dynamics of terrestrial carbon
 - Developing and promoting the use of RS technologies to monitor not only forest cover change but also terrestrial carbon stock changes would be helpful for improving GHG inventories on AFOLU sector.
 - JCM that support REDD+ program may consider the RS approach.

Thank you ^^ ขอขอบคุณค่ะ

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