Carbon Stock Assessment of Forested Wetlands of Asia

JOINT TRAINING PROGRAM OF USAID/RDMA, USFS/IP, AND CIFOR

WETLANDS PROTOCOL DISSEMINATION AND CAPACITY BUILDING

Mangroves in Asia account for an estimated 40 percent of the world's tropical forested wetlands, and conversion of these ecosystems to aquaculture and other land uses is among the leading contributors to GHG emissions from Asia. Perhaps the single greatest opportunity for reducing terrestrial emissions in South and Southeast Asia is to prevent the conversion of wetlands and peatlands to other land uses.

In order to document the climate-related benefits of improved conservation of mangroves and other forested wetlands it is necessary to apply a consistent methodology for assessing the carbon stocks present in these high-density ecosystems. With accurate assessment of carbon stocks from Asia's mangroves, the region's countries will be better able to measure emissions reductions and removals that may result from REDD+ and other pay-for-performance GHG mitigation actions that promote conservation of these ecologically, economically, and socially important land-use systems. Livelihoods and other co-benefits are also enhanced.

Scientists from the United States Forest Service Institute for Pacific Islands Forestry (USFS/IPIF), in collaboration with the Center for International Forestry Research (CIFOR), have completed protocols for carbon accounting on peatlands and forested wetlands (e.g., mangroves), based on fieldwork conducted in Bangladesh and several Pacific island countries. The protocols have been published as CIFOR Working Paper 86 (Kauffman and Donato, 2012[1]) and are informing the development of the 2013 Supplement to the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories.

In order to quickly disseminate the mangrove protocol throughout Asia, and to build capacity in applying it consistently as part of national GHG inventories and reporting, the United States Agency for International Development Regional Development Mission for Asia (USAID/RDMA) has embarked on a collaborative program of activities with the United States Forest Service International Programs (USFS/IP) and CIFOR. This collaboration will result in the ability of each participating country to establish initial carbon stock assessments of their mangroves and other forested wetlands, and to measure, monitor, report, and verify the changes to those stocks over time through emissions reductions and removals (sequestration).

REGIONAL TRAINING ON CARBON STOCK ASSESSMENT IN FORESTED WETLANDS

An initial regional training will be conducted in Thailand in April and May of 2013, through a collaborative effort of the USAID/RDMA-funded Low Emissions Asian Development (LEAD) and Lowering Emissions in Asia's Forests (LEAF) programs, and the jointly-supported Sustainable Wetlands Adaptation and Mitigation Program (SWAMP).

The regional training will consist of two consecutive events, one designed for policy makers and one designed for scientists and field practitioners. These events are summarized below, with additional details and course outlines to follow shortly. Course instructors include: Dr. Richard MacKenzie (USFS/IPIF), Dr. Daniel Murdiyarso (CIFOR), Patra Foulk (USFS/IP), Dr. Joko Purbopuspito (CIFOR), Dr. Amornwan "Mai" Resanond (LEAD), Todd Johnson (LEAD), Peter Stephen (LEAF), and Jeremy Broadhead (LEAF).

It is expected that participants will be invited from Bangladesh, Cambodia, India, Indonesia, Malaysia, Papua New Guinea, Philippines, Vietnam, and Thailand. **Participants will be provided a registration packet with details on travel and other logistics upon acceptance of their invitation**.

[1] Kauffman, JB and Donato, D. 2012. Protocols for the measurement, monitoring and reporting of structure, biomass and carbon stocks in mangrove forests. Available online at http://www.cifor.org/online-library/browse/view-publication/publication/3749.html

CARBON STOCK ASSESSMENT AND EMISSIONS INVENTORY IN ASIAN MANGROVES: EXECUTIVE SUMMARY FOR POLICY MAKERS

Who: Line agency leadership and decision makers responsible for integrating mangrove data into national GHG inventories, or allocating budgetary resources for field data collection by researchers or agency staff (up to six participants per country)

When: April 24-26, 2013

Where: Bangkok, Thailand with optional field visit to Laem Phak Bia Royal Project

This two-day short course (in English) will help leaders and decision makers to understand the mangrove protocol and how it fits into overall national measurement and monitoring of forest and other carbon stocks and their management for emissions reductions and removals. Topics covered will include:

1. the importance of incorporating wetlands into National Communications and Biennial Update Reports; national measuring, reporting, and verification (MRV) systems; and mitigating actions undertaken internally or with external support (e.g., NAMAs);
2. distribution of wetlands across south and southeast Asia and their roles in ecosystems function at landscape scales, including ways to link remotely sensed data with field measurements as part of national GHG inventories and MRV systems; and
3. opportunities and challenges that technical agencies will experience through use of the protocol for conducting carbon stock measurement in the countries' mangrove and other wetland areas.

Completing this course will provide a basis for allocating sufficient resources in departmental budgets for ongoing data collection needs as part of institutionalizing national GHG inventories into technical line agencies. An optional third day will consist of field visitation to a mangrove ecosystem near Hua Hin, to demonstrate the key elements of high-quality data collection and to tour a bioremediation project.

CARBON STOCK ASSESSMENT AND EMISSIONS INVENTORY IN ASIAN MANGROVES: FIELD TRAINING FOR SCIENTISTS AND AGENCY STAFF

Who: Leading researchers and line agency personnel responsible for quality control over the collection of mangrove data for national GHG inventories, managing the conservation of mangrove areas, or conducting research on the carbon dynamics of mangrove ecosystems (up to four participants per country)

When: April 29 – May 08, 2013

Where: Trang, Thailand with field work in nearby rehabilitated and undisturbed mangrove ecosystems

This nine-day course (in English) will help build capacity and understanding of the concepts, data collection, analyses, and other aspects of applying the protocol to measure carbon stocks in mangrove areas. The course will consist of classroom lectures, exercises, demonstrations, and field practicum activities designed to help field staff and researchers understand and apply the protocol, and to begin a process of wider dissemination of the protocol within each country using a train-the-trainers model. An approximate breakdown of the course content includes:

1. two days of classroom training to cover the concepts, overall process, sampling designs, and other preparatory aspects of applying the protocol;
2. four days of field practicum and data collection to ensure understanding of field measurements, use of equipment, and challenges of collecting good data in mangrove ecosystems;
3. two days of classroom training focused on post-collection handling of samples, analyses of soil and other carbon pools, and calculations; and
4. one day of course wrap-up that includes guidance on ways to disseminate the knowledge gained in-country, communicating results to agency leadership and other stakeholders, and establishing a regional network for consistent data collection as part of determining appropriate emissions factors for Asia.