Activities:

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☯ Criteria and Indicators for SFM in India

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☯ Framework for Action 2009-2014 on Measurement, Reporting and Verification (MRV)

☯ UN Climate Change Forest Monitoring System

☯ Google Forest Monitoring Tool: Seeing the Forest through the Cloud

☯ Making REDD a Success: Readiness and Beyond

☯ Estimating Tropical Forest Carbon at Risk of Emission from Deforestation Globally Applying the Terrestrial Carbon Group Reference Emission Level Approach

Activities:

Proposal for harmonization of forest indicators in Vietnam

☯Studies on forest monitoring, assessment and reporting (MAR) were conducted to find opportunities to harmonize existing forest-related indicators in Vietnam. Four main sets of indicator sets have been developed or utilized under different programs in Vietnam: The 2006 Indicator Set of the Ministry of Agriculture and Rural Development (MARD); the Forestry Sector Monitoring and Information System (FOMIS) supported by the Forest Sector Support Partnership (FSSP); Criteria and Indicators (C&I) by the Association of Southeast Asian Nations (ASEAN); and Global Forest Resources Assessment (FRA2010) by FAO.

☯The MARD promulgated a statistical indicator system in 2006, containing 18 indicators for forest MAR. These indicators focus on outcomes of activities to implement sector plans on forestry activities. Most of the indicators are collected under a very narrow time line and may not be fully suitable for forest resources assessment. Indicators for some variables such as forest owners, volume and value of non-wood forest products (NWFPs), and forest policies are deficient among them.

☯The indicator set of FOMIS aims to satisfy a need to update information for assessing implementation of forestry sector strategies and plans. The FOMIS specifies 72 indicators, whereas data were collected for 55 indicators in the 2005 inventory. The 17 remaining indicators were classified as "future indicators" to be considered. The ASEAN C&I covers 59 indicators related to 7 criteria, linked to sustainable forest management. Data are lacking for many indicators, with expectation to develop further in the future. In the 17 table sets of FRA2010, data are not yet available for indicators on employment, research and training in Vietnam. In consideration of the diverse ecological zones and their variations in the country, these reporting tables, may not correspond fully with national data needs.

☯These four indicator sets have similar variables, including factors related to forest resources, forest management, owners of forest resources, forest products, socio-economic and environmental effects of forests, and human resources for forest management. They differ only in the order of arrangement and the level of detailed information requested.

Pine plantation (credit: Masakazu Kashio)

☯Based on current database systems of the country, a harmonized indicator system is suggested to meet both national and international data needs through: (i) equivalent conversion of national data into international/regional formats for similar indicators (e.g. forest areas, forest types, growing stock, definitions of round wood, fuel wood, and removals of NWFPs, revenue and investment, etc.); (ii) modification of forest definitions such as separation of afforestation and reforestation for consistent data processing; and (iii) collection of additional information such as employment, research and training on forests, dead wood from forest and growing stock on other wooded land . The suggested indicator system consists of 10 criteria (status, functions, and ownership of forests, forest development, areas of damaged forests, forest harvesting, revenue, investment, employment, and policies/human resources) and 44 indicators (http://www.fao.org/forestry/18928-0-0.pdf) .

Support for preparation of updated vegetation maps in Vanuatu

◉The second round of the MAR program in Vanuatu was started to assess and reclassify vegetation by developing monitoring systems using remote sensing (RS)/geographical information system (GIS) and preparing the Vanuatu vegetation map. An implementation plan was developed based on a study report that was compiled in the first MAR program, whereby all the major stakeholders in the national MAR network were consulted to identify existing information and database components that were operated by respective stakeholders.

Aracauria sp. showing foxtail development of leaders (credit: Masakazu Kashio)

◉However, major areas of development recommended by the study report require updating of existing vegetation maps of Vanuatu, national forest inventory databases and publication of the national forest sector plan. They are fundamental planning tools to boost forest MAR in Vanuatu. A comprehensive project log frame was proposed to specify high-priority objectives and activities with the above recommendations. The main goal of the project is "to increase the institutional capacity of the Vanuatu Department of Forests to plan and manage the country's forest and tree resources on a sustainable basis," supported by three objectives: (i) to assess and reclassify Vanuatu vegetation through the use of GIS and RS; (ii) to carry out and update the National Forest Inventory of Vanuatu; and (iii) to prepare the first national forest sector plan for Vanuatu. The second MAR program focuses on assessment and reclassification of Vanuatu vegetation using GIS/RS.

◉The Vanuatu Department of Forests (VDoF) is currently operating a Geographic Information System (GIS) by turnkey installation of the Vanuatu Resource Information System (VANRIS) developed during the national forest inventory project from 1989 to 1993 funded by the Australian Government, based on aerial photos from 1984 to 1986. The vegetation classification and resource mapping units are applied to the system.

◉The Department of Lands and Surveys (DLS) (Land Use Unit) is expected to complete and actualize the VANRIS data regularly and provide updated data sets to the different users. The most essential data available from the DLS are the latest edition of the national topographic maps, printed in 1994, already used by the VDoF. The DLS is currently carrying out a project to produce a complete set of new topographic maps for the entire land area of Vanuatu, funded by AusAID, but its information is not yet fully adapted for forest MAR.

Natural acacia forest. (credit: Christel Palmberg Lerche)

◉The second MAR program is expected to facilitate coordination with the DLS and other stakeholders to develop a harmonized MAR system in Vanuatu. Assessment and classification of the Vanuatu vegetation will be essential as the baseline information for Vanuatu to update its national forest inventory that will include the inventory of timber, carbon stock and biodiversity. Furthermore, it will place Vanuatu in a better position for effective reporting to all processes on how sustainably forest resources and other natural resources are managed.

Natural stand of Acacia nilotica var. tomentosa (credit: Christel Palmberg Lerche)

Criteria and Indicators for SFM in India

The forest Research Institute (FRI) reviewed development of the national framework for Criteria and Indicators (C&I) in India through their study supported by the MAR Project. In India, a practical and measurable set of C&I for sustainable forest management (SFM) has been evolved by the Bhopal-India (B-I) Process which was launched in 1998. Development of C&I is expected to provide an effective way to set management targets in harmony with the National Forest Policy in 1988, providing a mechanism for forest monitoring with feedback for decision making on SFM. The Government of India identified 8 criteria and 51 indicators of the B-I Process in 1999, out of which the Ministry of Environment and Forests (MoEF) utilizes 8 criteria and 37 indicators for uniform data compilation, clear reporting on forest conditions, and presentations of the country's scenario for SFM in national and international fora. The eight criteria include: (i) Increase in the extent of forest and tree cover (5 indicators); (ii) Maintenance, conservation and enhancement of biodiversity (6 indicators); (iii) Maintenance and enhancement of ecosystem functions and vitality (5 indicators); (iv) Conservation and maintenance of soil and water resources (5 indicators); (v) Maintenance and enhancement of forest productivity (3 indicators); (vi) Optimization of forest resource utilization (8 indicators); (vii) Maintenance and enhancement of social, cultural and spiritual benefits (4 indicators); and (viii) Adequacy of policy, legal and institutional framework (7 indicators).

Alder-Based shifting cultivation (credit: Susan Braatz)

The Indian C&I has been experimented at different sites. The Indian Institute of Forest Management (IIFM), Bhopal has taken a leading role in developing local-level C&I at FMU levels. The methodology has evolved for Field Management Units (FMUs) with communities and field foresters to develop site-specific sets of C&I that suit specific forest types and geographic conditions, linked to joint forest management programmes. These tools are called "people indicators." Each of the FMU manuals and guidelines prepared through active participation of the community has proven to be valuable for implementation and extension of SFM in the entire country. Workshops organized at local, regional, national, and international levels as well as dissemination of research publications, workshop proceedings, newsletters, and websites have improved stakeholders' awareness and capacity to enhance SFM using C&I. Efforts have also been initiated to incorporate C&I in the course curriculum at graduate and post-graduate level curricula at different universities in the country. The C&I set is utilized for forest certification as a multi-pronged effect on government policies and regulation for sustainable forestry.

Shifting cultivation (credit: Susan Braatz)

Future challenges around C&I would be: to develop a set of nationally harmonized elements or variables for a database that may facilitate the implementation of MAR through appropriate description of the status and development of trends in forest management; and to develop an information-sharing network for enhancing its effectiveness and harmonization.

Jhum (shifting cultivation) fields with community forests above (credit: Archana Godbole)

References

 ☙ **Framework for Action 2009-2014 on Measurement, Reporting and Verification (MRV)**

A concept note on a Framework for Action 2009-2014 on Measurement, Reporting and Verification (MRV) deals with sustained and consistent implementation of Measurement, Reporting and Verification (MRV) for Reducing Emissions from Deforestation and Forest Degradation (REDD). It builds on the MRV scoping for the UN-REDD Programme as presented to its Policy Board in March 2009. The note outlines a framework for action for the UN-REDD Programme and partners, beyond the quick-start phase, for providing coordinated support to developing countries for MRV. For more information, visit

http://www.un-redd.org/UNREDDProgramme/ GlobalProgramme/ MeasurementReportingandVerification/tabid/1050/ language/en-US/Default.aspx.

 ☙ **UN climate change forest monitoring system**

UN helps launch a forest monitoring system to tackle climate change. A new and free way to monitor the size and health of forests through satellite data and help curb greenhouse gas emissions from deforestation and forest degradation has been launched by FAO and its partners. The new system delivers data for 13,000 locations and provides tools for their interpretation. For more information, visit http://www.un.org/apps/news/story.asp?NewsID=32627.

 ☙ **Google forest monitoring tool: seeing the forest through the cloud**

During the International Climate Change Conference (COP15) in Copenhagen, Google demonstrated a new technology prototype that enables online and global-scale observation and measurement of changes in the earth's forests. This technology is expected to help stop the destruction of the world's rapidly-disappearing forests. Satellite imagery data can provide the foundation for measurement and monitoring of the world's forests. With this technology, it is now possible for scientists to analyze raw satellite imagery data and extract meaningful information about the world's forests, such as locations and measurements of deforestation or even regeneration of a forest. For more information, visit

http://blog.google.org/2009/12/seeing-forest-through-cloud.html.

 ☙ **Making REDD a Success: Readiness and Beyond**

As the design of the international REDD mechanism moves towards completion over the coming years, there is an urgent need to turn greater attention to its implementation in developing nations. For REDD to succeed, it must become much more than a system for merely paying people not to farm in forest regions - for paying not to produce. It must become a new forest-and people-friendly model of rural development. For more information, visit
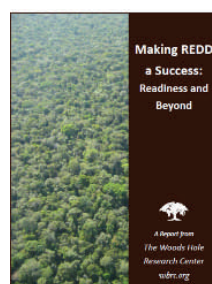
http://terra.whrc.org/Policy/CopenhagenReports/pdf/ synthesis_doc.pdf.

 ☙ **Estimating Tropical Forest Carbon at Risk of Emission from Deforestation Globally Applying the Terrestrial Carbon Group Reference Emission Level Approach**

One of the key unresolved issues in the climate change solution is how to set a so-called "reference emission level". The Terrestrial Carbon Group (TCG) supports the conceptual approach that reference emission levels should reflect business as usual into the future. A Policy Brief explains why TCG supports this approach and outlines its methodology for estimating emissions (and setting reference emission levels) in line with it. For illustrative purposes, TCG has applied it in a standardized way across 73 non-Annex I tropical forest nations and this Policy Brief presents its results, containing: (i) business as usual emissions from deforestation of the tropical forest at the regional and global level; and (ii) the impact, in terms of incentivised avoidance of emissions and potential payments for carbon. For more details, visit

http://www.terrestrialcarbon.org/site/DefaultSite/ filesystem/documents/TCG%20Policy%20Brief%203% 20TCG%20REL%20Tool%2020090608.pdf .