



Crosscutting Theme 1:

**Setting the baseline and estimating forest carbon:
Methodological Challenges**

Background:

One of the major events at this year's COP 13 was Forest Day, organized by CIFOR and partner organizations within the Collaborative Partnership on Forests (CPF). More than 800 people attended Forest Day, including scientists, policy makers, and representatives from intergovernmental and non-governmental organizations.

Forest Day featured four parallel midday sessions focusing on cross-cutting themes related to forests and climate. These well-attended discussions examined such issues as climate change adaptation, carbon markets and governance, baselines and accounting methodologies, and equity-efficiency trade-offs.

Bernhard Schlamadinger (TerraCarbon LLC) facilitated the session on "Setting the baseline and estimating forest carbon". Panel participants were Ruth De Fries (University of Maryland, USA), Sandra Brown (Winrock International), Lucio Pedroni (CATIE), and Peter Holmgren (FAO).

Areas of consensus:

- Procedures for monitoring deforestation and estimating the associated carbon emissions are well established and operational.
- While the significance of forest degradation as a net source of carbon to the atmosphere is debated (see below), there is agreement that it is an important cause of loss of biodiversity, environmental services, and livelihood opportunities.
- Given the number and diversity of drivers and circumstances in which deforestation occurs, past and present circumstances are neither an easy nor an accurate guide to future rates and extents of deforestation, so that simple projecting of current rates of deforestation into the future is questionable.
- Progress is being made to have greater national and local inputs to assessments of forest loss, the measures needed to combat this, and the monitoring of outcomes (though technical facilities and skills are a constraint).

Forest Day



Shaping the Global Agenda for Forest and Climate Change

Areas requiring further consensus building:

- Opinions differ regarding:
 - The importance of degradation as a net source of carbon to the atmosphere;
 - Whether this carbon loss can be estimated cost-effectively and with any confidence at a global scale, given the widespread nature but generally small size of degraded areas, the variability in the amount of carbon lost at different sites through time, and the partial and intermittent regrowth of the vegetation following disturbance; and
 - Whether degradation should be included in a REDD protocol, given these methodological difficulties and uncertainties.What constitutes 'degradation' and what the objective would be of including degradation in a REDD protocol are political decisions.
- The role of socio-economic modeling in projecting future trends and rates of deforestation.

Areas for further research include:

- A more detailed understanding, and better modeling, of changes in the drivers of deforestation and forest degradation, such as infrastructure, market prices, drought and others (noting that the drivers of the two processes are often quite different), taking into account large-scale natural disturbances;
- Better methods for quantifying and evaluating **net** changes in carbon stocks associated with forest degradation, especially those due to selective logging and fire; whereas what is logged and removed can be accounted for reasonably accurately (if the data on log extraction are available), what is left behind to decompose, and how much of this is offset by regrowth, are highly uncertain variables that depend on the intensity of logging, the logging practices, the damage caused by logging roads and skid tracks (which are currently not covered in the IPCC methodology), and post-logging management;
- Improved remote-sensing methods for distinguishing different kinds of deforestation and their impacts on carbon stocks, because established ground-based methods are too limited by their small scale of application, high unit costs, and time demands, to be applied globally;
- More information on the links between forest degradation and deforestation, and on the potential for controls on deforestation to lead to leakage via activities leading to increases in forest degradation;
- Refining estimates of carbon emissions from peatlands as a function of the kind of disturbance involved (e.g. drainage levels and fire occurrence and frequency), and post-clearance land use (principally replacement landcover and its management); current estimates are highly uncertain; and
- Continued development of monitoring procedures at different levels (local, national, global), with better linkages among these to improve the consistency of estimates.