Concepts and scope for comprehensive landscape accounting

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Land Use Sector .... History under CC mitigation

REPORTING under UNFCCC

- IPCC 1996 GL rev
- IPCC 2000 GL Uncertainty
  Land based
- IPCC 2003 GPG
- IPCC 2006 GL

MITIGATION ACTIVITIES

Annex I
- KP 3.3, 3.4
  - FM
  - CM
  - GM
  - Re-vegetation

Developing countries
- CDM AR
- REDD+ 5 activities
LULUCF and Agriculture: GHG inventory in the National Communication

**AGRICULTURE sector**
- Livestock, Rice, fertilization

**LULUCF sector**
- Land Use Categories
- Wetlands
- Forest Lands
- Settlements
- Other Lands
- Crop Lands
- Grasslands
From national reporting to accounting of emission reductions

Can the national level approaches be a basis for:

• Setting a comprehensive reference level
• Effectively monitoring emission reductions
Source: IPCC 2006
2006 IPCC Guidelines for National Greenhouse Gas Inventories:

- **Land use categories**
  - Six land-use categories
  - Countries may choose to further stratify land in each category by climatic or other ecological regions, depending on the choice of the method and its requirements

- **Pools**
  - Greenhouse gas emissions and removals determined for each specific land use includes CO2 (as carbon stock changes) from biomass, dead organic matter and soils, as well as non-CO2 emissions from burning and, depending on the land-use category, emissions from other specific sources (e.g. CH4 emissions from rice).
  - CH4 and N2O emissions from livestock management are estimated for major animal types
What is comprehensive?

- **Key categories analysis**
  - Defined as category that is prioritized because its estimate has a significant influence on the total inventory of greenhouse gases in terms of the absolute level, the trend, or the uncertainty in emissions and removals.
  - More detailed higher tier methods should be selected for key categories.
  - Two approaches:
    - key categories are identified using a pre-determined cumulative emissions threshold.
    - categories are sorted according to their contribution to uncertainty.

- **Managed land vs unmanaged land**
  - Reporting on all emissions by sources and removals by sinks from managed lands, which are considered to be anthropogenic.
  - Carbon stock estimates should be recalculated for the complete inventory time-series area whenever the total area of managed land changes in an annual inventory.
What is comprehensive?

2006 IPCC Guidelines for National Greenhouse Gas Inventories:
• Land use categories
• Pools
• Key categories analysis
• Managed land vs unmanaged land

Key questions for the ISFL:
• Full inventory (using key category analysis and allowing different quality) vs choice of land use categories and pools/gases
• If choice, is there a minimum requirement to be considered comprehensive?
• Managed land only including requirement for recalculation
Minimum quality requirements?

2006 IPCC Guidelines for National Greenhouse Gas Inventories:

• 3 Approaches
  • Approach 1: identifies the total area for each individual land-use category within a country, but does not provide detailed information on the nature of conversions between land uses
  • Approach 2: tracking of conversions between land-use categories
  • Approach 3: Approach 2 + allowing land-use conversions to be tracked on a spatially explicit basis
  • Countries may use a mix of Approaches for different regions over time.

• Tier
  • Tier 1: Country-specific activity data are needed, but often based on globally available sources of activity data estimates
  • Tier 2: Emission and stock change factors are based on country- or region-specific data
  • Tier 3: Higher order methods are used, including models and inventory measurement systems tailored to address national circumstances
Minimum quality requirements?

2006 IPCC Guidelines for National Greenhouse Gas Inventories:
• 3 Approaches
• Tier

Key questions for the ISFL:
• Minimum requirement in terms of approach and tier