INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

NATIONAL GREENHOUSE GAS INVENTORIES PROGRAMME

WMO

UNEP

IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry

Leandro Buendia
Programme Officer, IPCC-NGGIP-TSU

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Background Information

- Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (3 Volumes & software)
- Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG2000)
  - ✓ Energy
  - ✓ Industrial Processes
  - ✓ Agriculture
  - ✓ Waste

- ❖ to avoid the risk of inconsistency with the SR-LULUCF
- ❖ KP sink negotiations were not concluded in 2000

Background Information

Good Practice Guidance for Land Use, Land-use Change and Forestry (GPG-LULUCF)

- Published in 2003

What is good practice guidance?

GPG2000 defines inventories consistent with *good practice* as those which contain neither over- nor underestimates so far as can be judged, and in which uncertainties are reduced as far as is practicable given national circumstances.

Good practice guidance further supports the development of inventories that are:

- ✓ transparent
- ✓ documented
- ✓ consistent over time
- ✓ complete
- ✓ comparable
- ✓ assessed for uncertainties
- ✓ subject quality control and assurance
- ✓ efficient in the use of resources available to inventory agencies
- ✓ uncertainties are reduced as better information becomes available

Contents of GPG-LULUCF

1 Overview
2 Basis for Consistent Representation of Land Areas
3 LUCF Sector Good Practice Guidance
4 Supplementary methods and good practice guidance arising from the Kyoto Protocol
5 Cross-Cutting Issues

1. Overview

- sets out the mandate or the overall intent of the GPG
- summarizes the practical advice provided to inventory agencies
- provides relationship to 1996 GL
- short summaries of the other chapters
- discusses policy relevant issues

2. Basis for Consistent Representation of Land Areas

- Provides guidance on the selection of methods for identifying and representing land areas and land-use change
- Identifies 6 land-use categories
  - ✓ Forest Land
  - ✓ Cropland
  - ✓ Grassland
  - ✓ Wetland
  - ✓ Settlements
  - ✓ Other Land

2. Basis for Consistent Representation of Land Areas

- Describes 3 approaches to identifying land areas:
  - Use of basic (and usually existing) land-use data
  - Survey of land use and land-use change
  - Geographically explicit land-use mapping
- Advice on the development of land-use databases and some examples on their usage to approaches

2. Basis for Consistent Representation of Land Areas (Annexes)

- Examples of Approaches in Individual Countries
- Examples of International Land Cover Datasets

3. LUCF Sector Good Practice Guidance

- Provides methodological options for the estimation of emissions and removals of CO2 and non-CO2 GHG for the LULUCF sector
  - ✓ Methodological Issues
    - Choice of Method (3 tiers; decision trees)
    - Choice of EF
    - Choice of Activity Data
    - Completeness
    - Developing a Consistent Time Series
  - ✓ Uncertainty Assessment
  - ✓ Inventory QA/QC
  - ✓ Reporting and Documentation

…Mapping back table to GL96 (Chapter 5)

3. LUCF Sector Good Practice Guidance

- **Addresses five carbon pools**
  - ✓ Aboveground biomass
  - ✓ Belowground biomass
  - ✓ Dead wood
  - ✓ Litter
  - ✓ Soil C
- **Annexes and Appendices**
  - ✓ Biomass Default Tables for Forest Land
  - ✓ Reporting Tables and Worksheets
  - ✓ Basis for Future Methodological Development (e.g. HWP, etc.)

4. Supplementary methods and good practice guidance arising from the Kyoto Protocol

- General concepts of land-use change monitoring and reporting for KP.
- Summary tables of all reporting requirements, before, during, and after each Commitment Period.
- Decision trees that outline criteria to determine areas subject to afforestation (A), reforestation (R), deforestation (D), and management activities.
- Supplementary methods for estimating carbon stock changes and non-CO2 emissions for land-use change (AR, D) and land use (forest management, cropland management, grazing land management and revegetation).

4. Supplementary methods and good practice guidance arising from the Kyoto Protocol

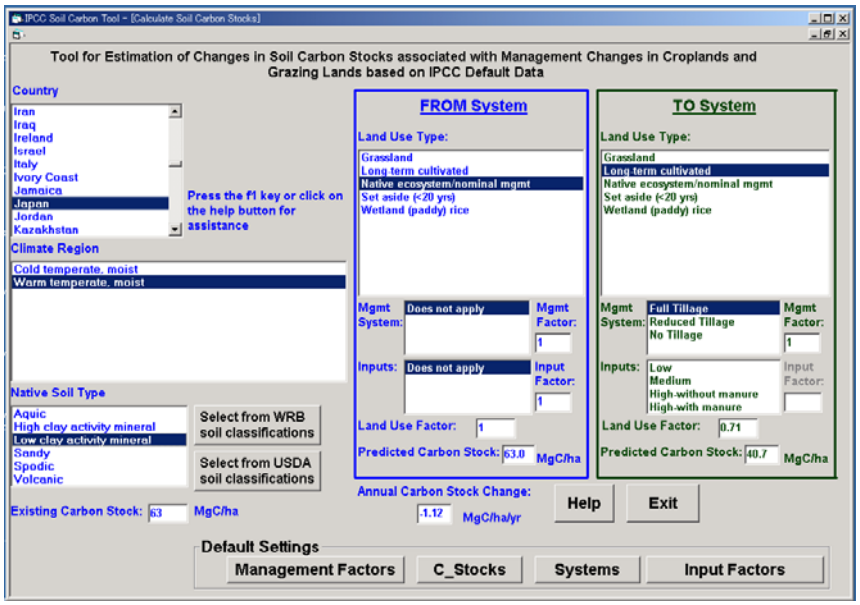
4.3 LULUCF Projects

- Guidance for LULUCF projects on designing and implementing multi-tier measuring and monitoring plans
- Guidance is stand-alone, with cross-linkages to Chapters 3 and 5
- Does not cover:
  - ✓ baseline definition
  - ✓ Additionality
  - ✓ Leakage
  - ✓ non-permanence
  - ✓ monitoring of socio-economic/environmental impacts

4. Supplementary methods and good practice guidance arising from the Kyoto Protocol

Annexes…

- Tool for estimation of changes in soil carbon stocks associated with management changes in cropland and grazing lands based on IPCC default data (software in CD-ROM); see slides
- Examples of allometric equations for estimating aboveground biomass and belowground biomass of trees



5 Cross-Cutting Issues

- Uncertainty Assessment
- Collecting and analysing data by sampling
- Reconstruction of missing data
- Identification of Key Categories (to cover sink)
- Quality Assurance and Quality Control
- Time Series Consistency and Recalculations
- Verification approaches (e.g. comparison of inventories, modelling approaches, and direct measurements)

Steps in LULUCF inventory preparation

1. Use the 3 approaches (Chapter 2) to estimate land areas for each land-use category relevant to your country
2. Follow the good practice guidance (Chapter 3) to estimate the emissions and removals of GHGs for each land use, land-use change and pool relevant to your country. If necessary collect additional data to improve data quality. Perform key category analysis (Chapter 5).
3. Estimate uncertainties, report emissions/removals, and implement Quality assurance/quality control procedures (Chapter 5).
4. If required: prepare supplementary information for Kyoto Protocol reporting (follow Chapter 4))

Conclusions

- GPG produces more reliable estimates of the magnitude of uncertainties in GHG inventories
- GPG provides improved understanding of how uncertainties may be managed to produce emissions estimates that are acceptable to UNFCCC (i.e. transparency, consistency, comparability, completeness and accuracy in inventories)

Conclusions

Draft COP/MOP decision contained in Decision -/CP.10 (FCCC/CP/2004/L.26/Add.1)

- ✓ The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, …
  Decides that for the first commitment period Parties included in Annex I to the Convention that have ratified the Kyoto Protocol shall apply the good practice guidance for land use, land-use change and forestry, as developed by the Intergovernmental Panel on Climate Change, in a manner consistent with the Kyoto Protocol and draft decision -/CMP.1 (Land use, land-use change and forestry) and the annex to this draft decision,[1] for the purpose of providing information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, in accordance with Article 5, paragraph 2 of the Kyoto Protocol;
  - **(footnote1)** Noting that reporting methods contained in Chapter 4 of the Intergovernmental Panel on Climate Change Good Practice Guidance for Land Use, Land-use Change and Forestry, should ensure that areas of land subject to land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, are identifiable

Conclusions

- **Default EF/parameters in GPG-LULUCF are soon to be accessible from the EFDB**
  http://www.ipcc-nggip.iges.or.jp/EFDB/main.php

- **The IPCC is in the process of preparing the 2006 Guidelines that will be based on:**
  - ✓ **1996 GL, GPG2000, GPG-LULUCF**
  - ✓ **Emission Factor Database (EFDB)**
  - ✓ **Advances in science and technology**
  - ✓ **The experience in the use of GLs/GPGs as well as experience from UNFCCC inventory reviews**

http://www.ipcc-nggip.iges.or.jp