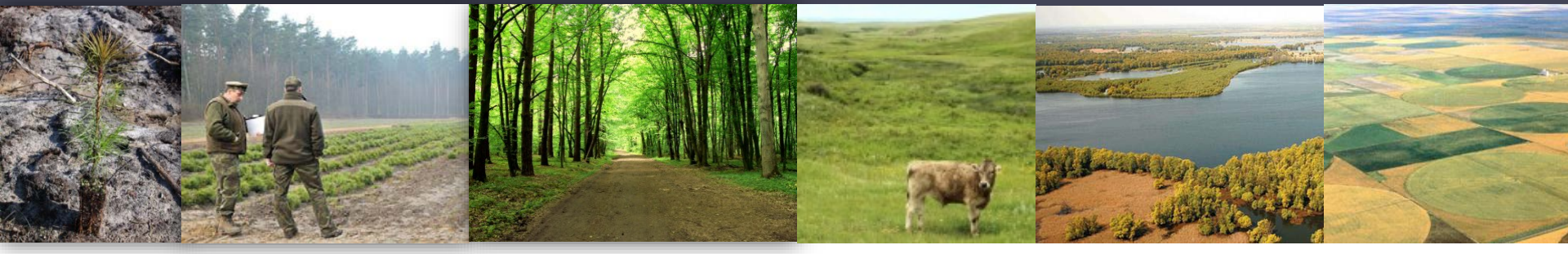
Good practice in application IPCC guidance



Tomasz Kowalczewski

Regional training seminar on assesment of GHG Inventories in the Forestry and Other Land Use 16th of April 2015, Sarajvo

Outline of the presentation

- What is IPCC
- Why we have IPCC guideline
- Levels of accuracy depends of national capacity

What is the IPCC

- World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) co-established in 1988 the Intergovernmental Panel on Climate Change (IPCC).
- IPCC's supports the UN Framework Convention on Climate Change (UNFCCC) through its work on methodologies for National Greenhouse Gas Inventories

How it has started?

- The *IPCC Guidelines* were first accepted in 1994 and published in 1995.
- UNFCCC COP3 held in 1997 in Kyoto reaffirmed that the *Revised 1996 IPCC Guidelines for National GGI* should be used as "methodologies for estimating anthropogenic emissions by sources and removals by sinks of GHG" in calculation of legally-binding targets during the first commitment period.

Evolution of IPPC Guideline

- Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (3 Volumes)
- Good Practice Guidance and Uncertainty Management in National greenhouse Gas Inventories (2000)
- Good Practice Guidance for Land Use, Land-U Change and Forestry (2003)
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories

IPCC Guidelines for inventories

- **Complete**– cover all emissions from a country within a calendar year from specified gases
- **Consistent & Comparable**– estimates can be compared between countries and over time
- **Transparent & Documented**
- how the inventory was compiled is clear
- **Accurate & Unbiased** as far as possible taking account of available resources

What is Good Practice?

- Assists countries in producing inventories that are accurate in the sense of being *neither over nor underestimates* so far as can be judged, and in which uncertainties are *reduced as far as possible*
- Gives a way to manage uncertainties

Three levels of initiation – Tier's

- **Tier 1 - Simple using global/regional defaults**

often globally available sources of activity data estimates (e.g., deforestation rates, agricultural production statistics, global land cover maps, fertilizer use, livestock population data, etc.),

Three levels of initiation – Tier's

Tier 2 - More detailed using nationally specific factors

can be the same methodological approach as Tier 1 but applies emission and stock change factors that are based on country- or region-specific data.

Country-defined emission factors are more appropriate for the climatic regions, land-use systems and livestock categories in that country

Three levels of initiation – Tier's

Tier 3 - More complex models or measurements

Higher order methods are used, including models and inventory measurement systems tailored to address national circumstances, repeated over time, and driven by high-resolution activity data and disaggregated at sub-national level.

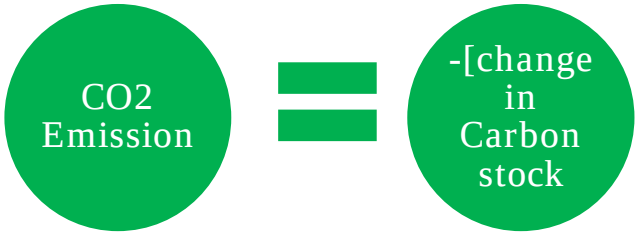
Approaches for Activity Data

- 1. Basic land use data – statistical data (e.g. FAO) allowing for net change estimation in forest area
- 2. Survey of land use and land-use change - based on maps, surveys, and other national statistical datasets
- 3. Geographically explicit land use data - interpretation of remote sensing data, sampling or wall-to-wall mapping - only approach to use for Deforestation

Estimating Emissions

Straightforward approaches

Land Use assumes

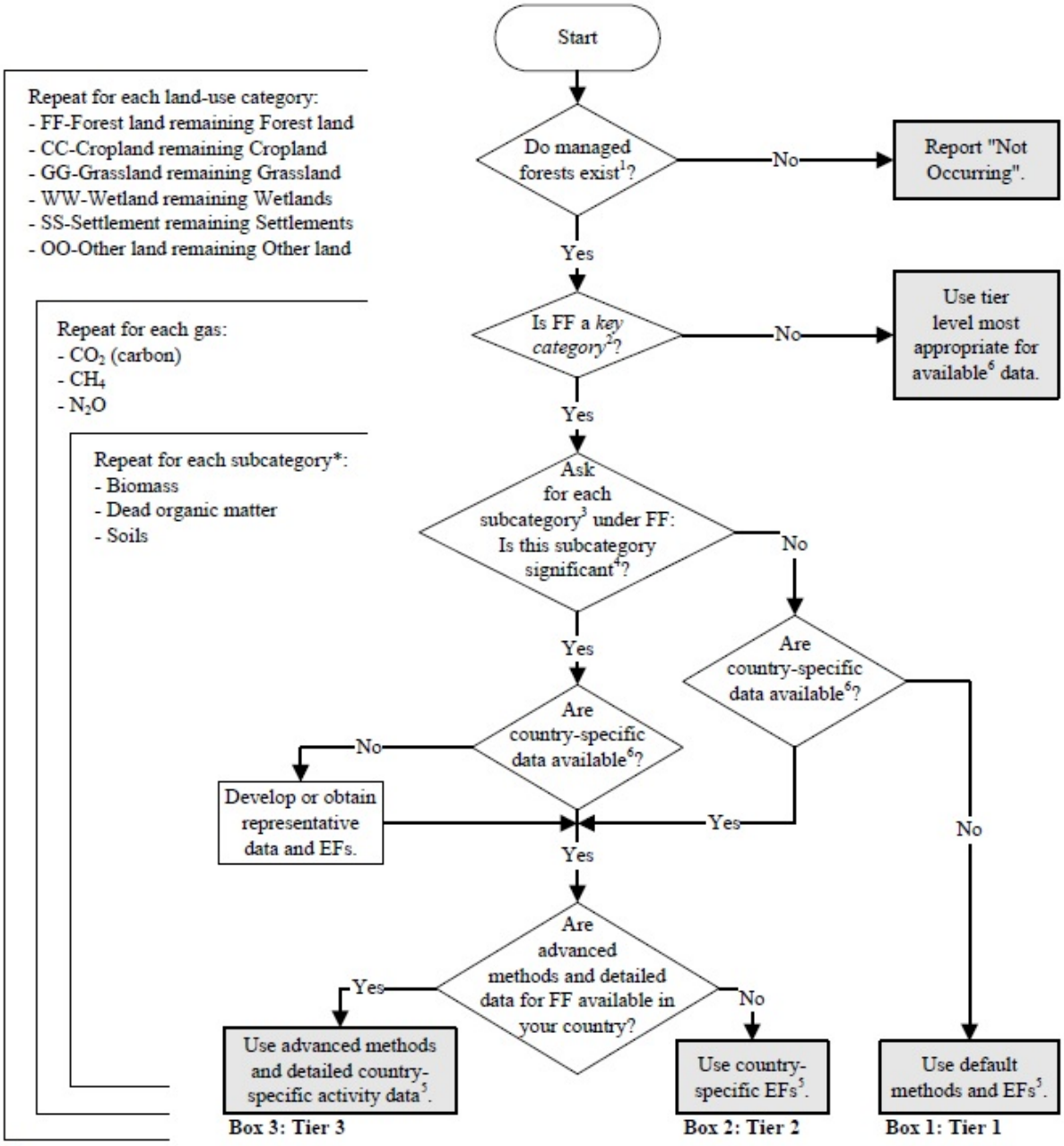


Emission factors:

1. Country specific based on research and national data
2. Default – available in the IPCC guidelines based on the international literature

A good practice is to use Tier 2 for major sources of emission in the country

IPCC GPG provides best practice approaches to compiling inventories covering data collection; QA/QC; choice of methods; documentation and estimation of uncertainties


Start
Repeat for each land-use category:
- FF-Forest land remaining Forest land
- CC-Cropland remaining Cropland
- GG-Grassland remaining Grassland
- WW-Wetland remaining Wetlands
- SS-Settlement remaining Settlements
- OO-Other land remaining Other land
Do managed forests exist[1]?
No
Report "Not Occurring".
Yes
Repeat for each gas:
- CO_2 (carbon)
- CH_4
- N_2O
Is FF a *key category*[2]?
No
Use tier level most appropriate for available[6] data.
Yes
Repeat for each subcategory*:
- Biomass
- Dead organic matter
- Soils
Ask for each subcategory[3] under FF: Is this subcategory significant[4]?
No
Yes
Are country-specific data available[6]?
No
Develop or obtain representative data and EFs.
Yes
Are country-specific data available[6]?
Yes
No
Yes
Are advanced methods and detailed data for FF available in your country?
Yes
No
Use advanced methods and detailed country-specific activity data[5].
Use country-specific EFs[5].
Use default methods and EFs[5].
Box 3: Tier 3
Box 2: Tier 2
Box 1: Tier 1

Good practices for Initial inventories

- Estimate emissions/removals using Tier 1
- Identify significant sources/sinks (contributing to 95% of total, trend or qualitative criteria) these are “key categories”
- Re-estimate key categories using at least Tier 2
- Estimate uncertainties
- Document and report

Constant improvement needed from Tier 1 to Tier 3

All Countries in the world are struggling with the GHG Inventories and they are constantly improving them

Thank you for your attention