The IPCC Guidelines and the managed land proxy

IPCC Expert Meeting on reconciling land use emissions

9-11th July 2024, Ispra, Italy

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Outline

- Mandate and guidelines produced by the TFI
- Principles and approach
- Approach to separate anthropogenic and non anthropogenic E/R – Managed Land Proxy
- Rational of the MLP and guidance to apply
- Operationalization – Examples
- Conclusions

Mandate

The UNFCCC requires that Parties "develop, periodically update, publish and make available **national inventories of anthropogenic emissions and removals of all greenhouse gases not controlled by the Montreal Protocol**, using comparable methodologies to be agreed upon by the Conference of the Parties" (UNFCCC 1992, art 4.1.a)

Reporting of the Parties in their national GHG inventories (NGHGIs) should be distinguished from accounting of anthropogenic GHG emissions and removals for the fulfilment of national obligations, particularly NDCs, which may have deferent approaches from those used in the reporting. …. often closely linked and based on reporting, but may include only a part of the GHG fluxes

IPCC TFI - Documents

UNFCCC and IPCC Inventory Guidelines

Currently, Non Annex I Parties use these under the UNFCCC.

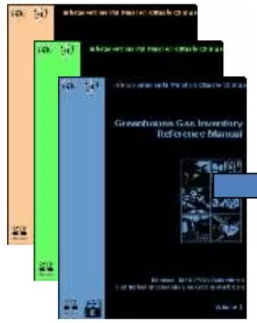
Non-Annex I Parties are encouraged to use GPGs.

1995 IPCC Guidelines

Revised 1996 IPCC Guidelines

GPG2000 (non-LULUCF)

GPG2003 (LULUCF)



Actually, 2006 Guidelines are being used by more and more Non-Annex I Parties.

Annex I Parties must use from 2015

2006 IPCC Guidelines

New Supplementary Guidance in 2013

+

2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Methods and Approaches

Universal application and affordable by inventory compilers in terms of **data access and capacity to implement** while looking to include all sources of GHGs

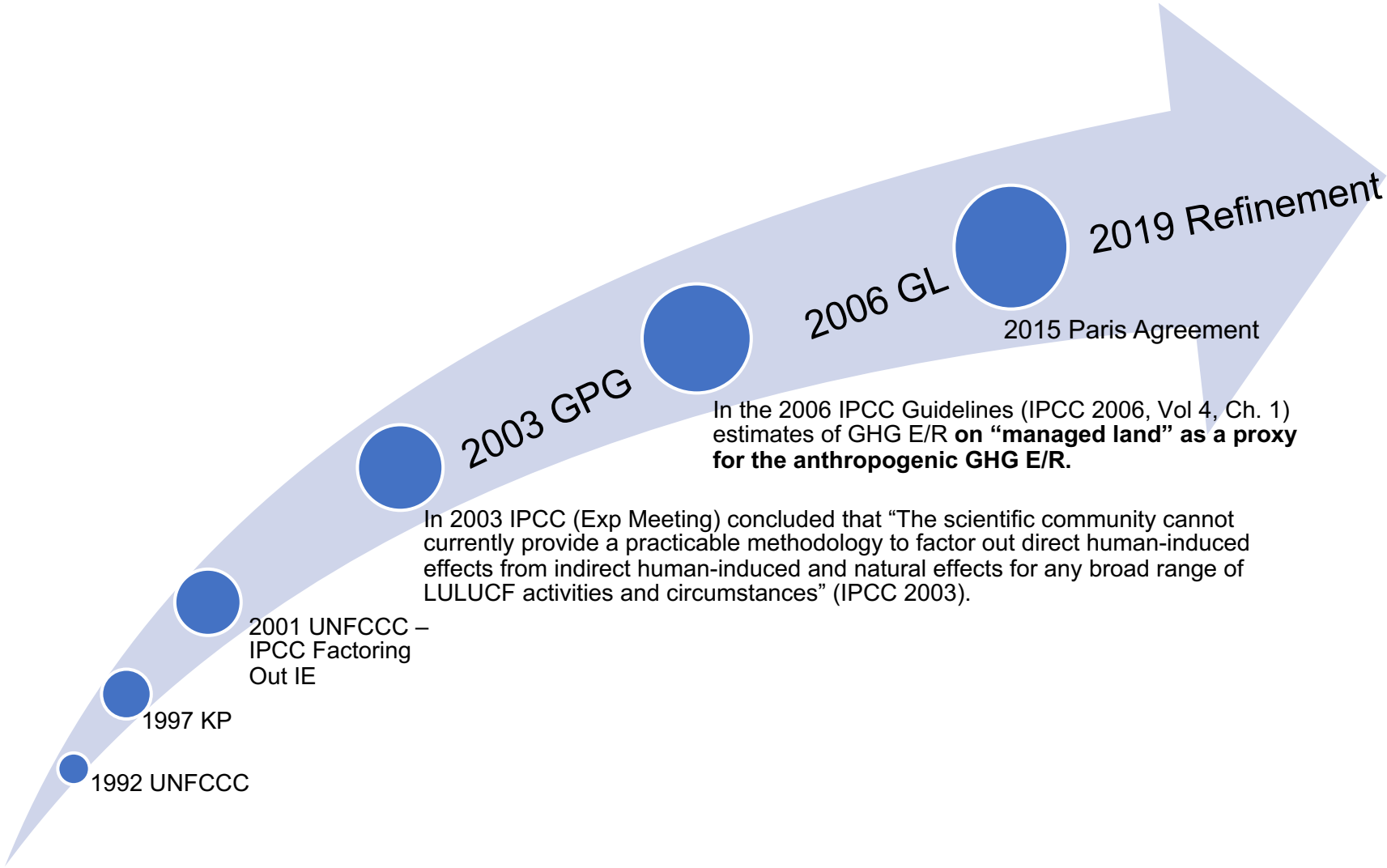
Accurate in the sense that they are systematically neither over-nor underestimates so far as can be judged, and that they are **precise so far as practicable**

Principles: transparency, accuracy, completeness, comparability and consistency **(TACCC)**

Three tier levels of increasing methodological complexity and presumed increasing accuracy of estimates (T1, 2, 3)

Three land identification approaches

Approach – Management Land Proxy



2019 GL – went to address natural in managed lands

Guidance to disaggregate reported MLP emissions and removals into the ones result from human activities and that result from natural disturbances.

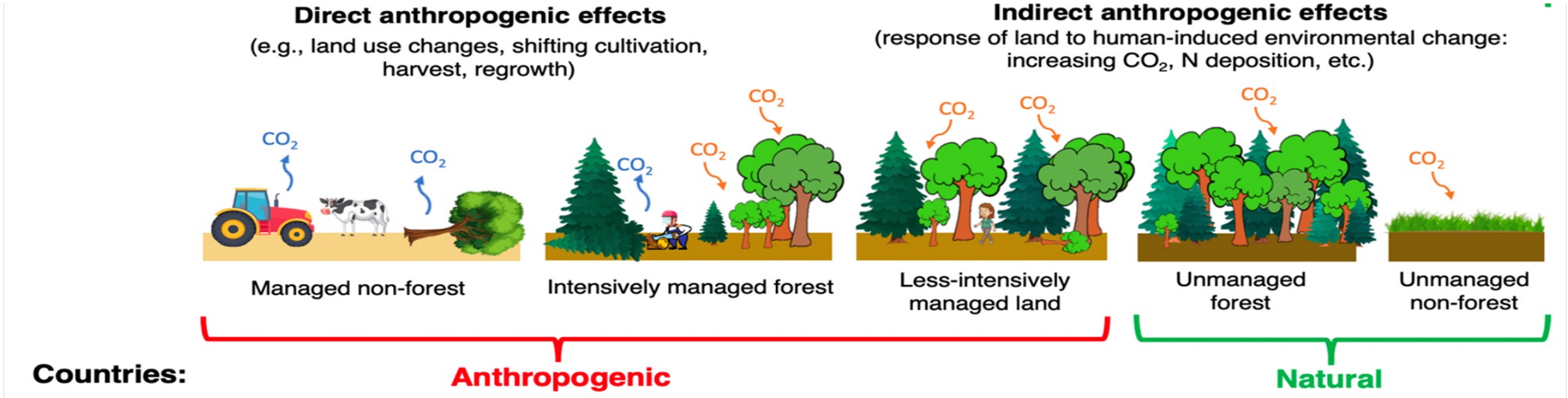
IAV due to natural effects is large and can be transparently excluded based on agreed criteria.

Definition of the MLP

<u>Managed land</u> is land where human interventions and practices have been applied to perform production, ecological or social functions (IPCC 2006).

Preponderance of anthropogenic effects occurs on managed lands.

	Managed land	Unmanaged land
Direct-human induced effects • Land use change • Harvest and other management	✓	
Indirect-human induced effects •Climate change induced change in temperature, precipitation, length of growing season •Atmospheric CO_2 fertilisation and N deposition, impact of air pollution •Changes in natural disturbances regime	✓	✓
Natural effects •Natural interannual variability •Natural disturbances	✓	✓



MLP Rational

- By definition, all “direct human-induced” effects on GHG emissions and removals occur on managed lands only.
- Recognizing that no area of the Earth’s surface is entirely free of human influence (e.g., CO2 fertilization), many “indirect human” influences on GHGs (e.g., increased N deposition) predominately occur on managed lands, where human activities are concentrated.
- Local and short-term variability in emissions and removals due to natural causes can be substantial (e.g., emissions from fire), the natural background of GHG emissions and removals by sinks tends to average out over time and space.
  - *Although, the natural interannual variability can have an important impact on annual NGHGIs.*

MLP use

- All land definitions and classifications should be specified at the national level.
- Described in a transparent manner, and be applied consistently over time and space.
- Emissions and removals of GHGs do not need to be reported for unmanaged land. However, it is good practice for countries to quantify, and track over time, the area of unmanaged land so that consistency in area accounting is maintained as land-use change occurs.
- If there is a direct human induced activity in a land that previously was unmanaged (e.g., deforestation of primary forest), that land immediately becomes managed land.

MLP and 2019 Refinement

IPCC Refinement further elaborated on:

- The relationship between different methodological approaches and the individual drivers/effects, i.e. direct and indirect human-induced as well as natural.

A transparent description of the methods and data used may help the scientific and policy communities to understand better the extent to which the various anthropogenic (direct and indirect) and natural drivers/effects are reflected in the NGHGIs

Useful information in the NGHGI include definition and spatial maps of managed land, information on areas of forest being harvested and those subject to other management, and information on the main determinants of the GHG fluxes (e.g., forest age structure, harvested volumes, harvest cycle).

- The causes of interannual variability in emissions and removals, including an optional approach to disaggregate E and subsequent R from natural disturbances.

Guidance to disaggregate reported MLP emissions and removals into the ones result from human activities and that result from natural disturbances.

IAV due to natural effects is large and can be transparently excluded based on agreed criteria.

Operationalization of the MLP

EXAMPLES

Challenges and benefits of the MLP

A simple and pragmatic approach that - by considering the management at the core of the separation between anthropogenic from non-anthropogenic emissions and removals (connects with management activity - EF)

It allows for consistency, verifiability and transparency in estimations across countries with very different capacities (additional guidance to deal with interannual variability caused by natural disturbances and maintaining the transparency of reporting)

Too narrow a definition of managed forest, that potentially can lead to severe underestimation of stock losses

An overly broad national definition of managed land, that may allow natural removals to be included in GHG inventory reporting, resulting in a loss of incentives to reduce fossil fuel emissions.

THANK YOU

FOR YOUR ATTENTION

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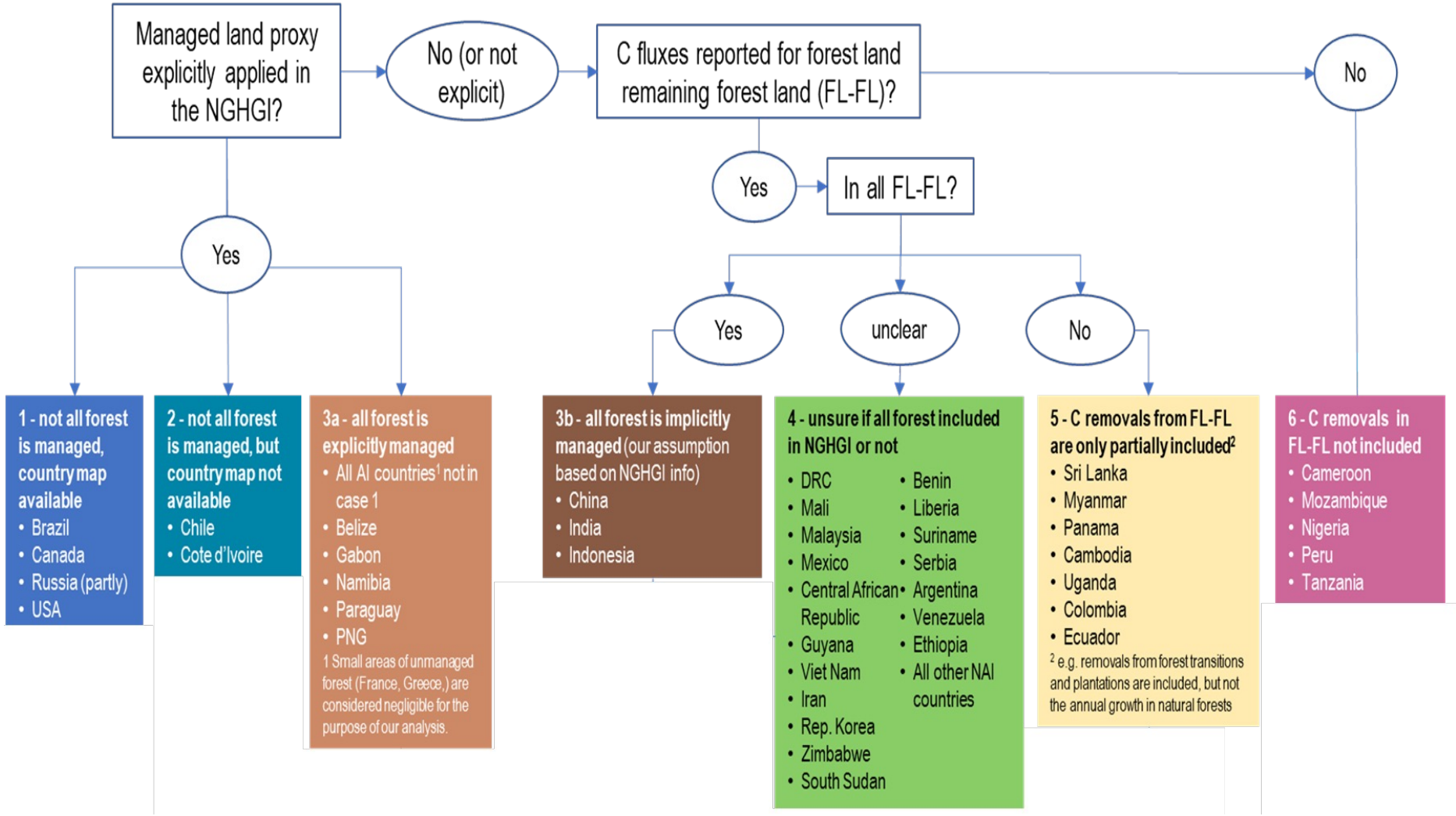
Use of MLP in UNFCCC Parties (J.Melo)

All Annex I and few Non-Annex I are applying the MLP approach explicitly in their NGHGIs, where few indicate that not all forests are managed identifying them spatially or not.

The rest of the Non-Annex I countries are not explicit on how they use the MLP.



GHG inventories and REDD+ submissions (source: Melo and Grassi, in preparation)