Example of a CbC documentation

Training Workshop on the National System for the GHG Inventory

Coalition for Rainforest Nations

UN-REDD PROGRAMME

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Aggregation level of Category-by-Category description (CbC)

The 2003 IPCC Good Practice Guidance suggest to have a category by category description separately for CO_2, CH_4 and N_2O. The assessment of the significance of subcategories, by identifying those that contribute 25-30% to the total level of emissions or removals from the category, is also suggested.

The 2006 IPCC Guidelines advise, in addition, to treat as particularly significant those subcategories that contribute together more than 60% to the *key category.*

Aggregation level of Category-by-Category description (CbC)

In the example we'll focus on the category *Forest land*, and subcategories *Forest land remaining Forest land* and *Land converting to Forest land*.

The category *Forest land* is usually a key category; according to the suggestion of 2006 IPCC Guidelines we'll determine which pools (Living biomass, DOM, Soils) are significant and, in case.

Disaggregation per pools

Forest land remaining forest land

	Net C stock change in living biomass	Net C stock change in DOM	Net C stock change in soils
	%	%	%
1990	41.3	8.8	49.9
2008	49.3	8.4	42.3

Forest land

	Net C stock change in living biomass	Net C stock change in DOM	Net C stock change in soils
	%	%	%
1990	41.0	8.7	50.3
2008	48.4	8.3	43.3

Land converting to Forest land

	Net C stock change in living biomass	Net C stock change in DOM	Net C stock change in soils
	%	%	%
1990	22.7	5.0	72.2
2008	16.2	2.8	81.0

The contribute of different pools (Living biomass, DOM, Soils) have been computed for the above-mentioned subcategories, for the base year under UNFCCC and for the last inventory year.

Disaggregation per subcategories

Forest land remaining forest land

	Net C stock change in living biomass		
	stands	coppices	rupicolous and riparian forests
	%	%	%
1990	22.7	70.9	6.4
2008	34.0	58.7	7.3

Forest land

	Net C stock change in living biomass		
	stands	coppices	rupicolous and riparian forests
	%	%	%
1990	22.7	70.9	6.4
2008	34.0	58.7	7.3

Land converting to Forest land

	Net C stock change in living biomass		
	stands	coppices	rupicolous and riparian forests
	%	%	%
1990	23.4	69.9	6.7
2008	34.4	58.0	7.6

Each subcategory has been reported disaggregated into 3 classes (*stands, coppices, rupicolous* and *riparian forests*). The contributes of the different classes have been computed, for the base year under UNFCCC and for the last inventory year.

Uncertainties: Tier 1 Approach (error propagation method)

Where uncertain quantities are to be combined by multiplication, as when deriving the overall uncertainty in national estimates, IPCC 2006 Guidelines suggest to use the following equation:

$$U_{total} = \sqrt{U_1^2 + U_2^2 + \ldots + U_n^2}$$

where:

U_{total} = percentage uncertainty in the product of the quantities

U_i = percentage uncertainty associated with source/sink *i*

Where uncertain quantities are to be combined by multiplication, as when deriving the overall uncertainty in national estimates, IPCC 2006 Guidelines suggest to use the following equation:

$$U_E = \frac{\sqrt{(U_1 \cdot E_1)^2 + (U_2 \cdot E_2)^2 + \ldots + (U_n \cdot E_n)^2}}{|E_1 + E_2 + \ldots + E_n|}$$

where:

U_E = percentage uncertainty of the sum

U_i = percentage uncertainty associated with source/sink *i*

E_i = emission/removal estimate for source/sink *i*

Disaggregation and uncertainties

A notable difference among the pools (*Living Biomass, Dead Organic Matter and Soils)* emerges from uncertainties analysis.

Uncertainties for C pools		
Net C stock change in living biomass	Net C stock change in DOM	Net C stock change in soils
%	%	%
78%	96%	152%

The uncertainty assessment carried out for the 3 classes (*stands, coppices, rupicolous* and *riparian forests*) results in very similar values.

Disaggregation and uncertainties

The category by category description is functional to the key category analysis. In this context, high uncertainties can affect the outcomes of Tier 2 key category analysis, where categories uncertainties are incorporated by weighting the Tier 1 Level and Trend assessment results by categories' relative uncertainty.

This is the rationale that has led to the exercise of the key category analysis: in the analysis, following the outcomes of the category by category description two cases will be studied, taking into account the disaggregation per pools of the category forest land remaining forest land. The chosen example will emphasize the role of uncertainty in the key category analysis, and the consequent attention to be given to category (subcategory or pool) in estimation process.

Example of a CbC documentation

- see Excel file