

Overview of the LULUCF and KP-LULUCF issues in the 2011 review cycle of the UNFCCC

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Overview

- Introduction
- Issues regarding IPCC principles
- Cross-cutting issues
- Saturday paper
- Some conclusions



The 2011 annual review cycle

- In 2011 the secretariat received 43 annual submissions from Annex I Parties (AIP).
- Between 22 August and 22 October 2011 were conducted 9 in-country reviews and 7 centralized reviews.
- 38 submissions with information under Article 7.1 of the KP were reviewed under the requirements of Article 8 review guidelines (22/CMP.1). The remaining 5 were reviewed in accordance with the UNFCCC review guidelines (19/CP.8).
- In 2011, the secretariat invited 224 experts, but only 126 individuals from 54 Parties served as reviewers: 43 were from non-AIP, 17 from EIT AIP and 66 from other AIP.
- Only two LULUCF experts in each centralized review and one LULUCF expert in each of the nine in-country reviews:
 - 6 new LULUCF experts participated in 2011.



Transparency issues (I)

LULUCF

- Missing information on the methodology for estimating land uses and conversions and corresponding areas (L-FL, L-GL); (7)
- No/poor information on methods and selection and estimation of data (10) and CS factors (BEF, C stocks in LB for L-SE); (9)
- No information on method and losses in LB pool in FL-FL; (2)
- Data sources for DOM in FL conversion to CL, GL, WL, SE and OL;
- Lack of precise information on method and assumptions for “20 year areas” and annually converted areas for various LU categories;
- No information on reasons why CSC in DOM are reported as “NO”;
- No information on impact on data used due to change of forest definition to make it consistent with forest definition under KP;



Transparency issues (II)

LULUCF

- No clear information on the type of OL converted to FL and no evidence that CSC/ha for mineral soils is appropriate for L-FL;
- No clear justification for country-specific value for BEF for CSC in deadwood;
- No justification for use of the same methodology for CSC in deadwood for GL-GL and FL-FL;
- No evidence on that method used for estimating L-WE leads to conservative estimates regarding decay of submersed biomass;
- No clear explanations on LU trends;
- Some land use change data and parameters were derived from expert judgment: L-FL (except GL-FL) and L-SE (except FL-SE) reported as “NO”



Transparency issues (III)

LULUCF

- AD and emissions/removals reported aggregated in soils for FL-L;
- Unclear definition of forest use and link of forest under Convention and KP and no information on forest definition;
- No explanation on abrupt increase in the area of SE between 1995 and 1996 (84.5 percent) and unclear how emissions from mineral soils are treated.



Transparency issues (IV)

KP-LULUCF

- No transparent information on parameters used for calculations;
 - No information on the methodology and assumptions used to obtain areas of AR & D lands and their complete coverage; (2)
 - Demonstration of “direct human induced” natural regeneration of forest on abandoned agricultural land not sufficient; (4)
 - Narrow interpretation of FM that leads to an unusually low proportion of managed forests;
 - Missing detailed information on data used for estimating AR;
 - Lack of transparency on how AR activities occurred on former grassland or unmanaged forests;
 - No information on methodological consistency with IPCC GPG;
 - Unclear information on classification of tree groups under WL and forest parcels under FL;
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Transparency issues (V)

KP-LULUCF

- No individual reporting of CSC for each of the five carbon pools due to limitations in model used;
- No information on areas of land converted to intensively or extensively managed forests or on soil types and no particular characteristics of converted stands taken into account;
- No clear information demonstrating that FM activities under Article 3.4 are not accounted for under activities under Article 3.3;
- No Information that demonstrates that 3.3 activities began on or after 1 January 1990 and before 31 December of the last year of the commitment period. (2)



Consistency issues

LULUCF

- Inconsistent explanation in NIR on figures of mineral soils pool;
- CSC in living biomass fluctuate largely due to estimation method;
- Inconsistent/inaccurate time series of LU and LUC matrices; (3)
- Use of different approaches (e.g. different definitions of the AD reported for L-FL); (EU)
- Different areas of organic soils are reported under the LULUCF and Agriculture sectors;
- CSC in mineral soils are not reported under the Convention, while they are reported under the KP.

KP-LULUCF

- Discrepancy of estimated areas between Convention and KP;
- Discrepancy in reporting N₂O emissions associated with land use conversion to CL in mineral soils between Convention and KP;
- Lack of consistency in area estimates between FL categories under the Convention and KP (AR & D and FM); (2)



Comparability issues

LULUCF

- Level of aggregation of forest land not consistent with the IPCC GPG or the 2006 IPCC Guidelines (L-FL aggregated with FL-FL);
- Land conversion subcategories reported as totals while individual conversions reported as “IE” (FL-CL, GL-CL, L-SE);
- CSC in organic soils for GL-GL and CL-CL are reported together under GL-GL. However CSC in organic soils with change in land use are reported as “NE”.



Completeness issues (I)

LULUCF

- Incomplete or not reported land-use change matrices due to unavailability of complete land-use data; (3)
- Largely incomplete reporting (4) for CL, GL, WL (3), SE (3), OL (5), Liming (NO/NE) (5), N₂O emissions and non-CO₂ emissions from biomass burning (3);
- Lack of estimates for CL-CL, GL-GL (4), L-GL (3); CL-GL; L-WL (2), L-SE and L-OL;
- Missing estimates: DOM for CL-CL; mineral soils for CL, GL, other LU (5); living biomass for CL-CL; DOM and soils for FL-FL (3), L-FL, FL-L, L-GL (2); DOM all categories (5); SOM for L-SE (2), L-OL land FL-WL; living biomass and organic soils for L-FL, L-GL and GL-SE; living biomass and DOM for L-CL and L-GL;
- Incompleteness of the geographical coverage for estimations;



Completeness issues (II)

LULUCF

- Living biomass is the only carbon pool reported or some other pools are not reported because they are “not sources”;
- No reporting of area and estimates for organic soils for FL (2), CL and GL (4), even though these are included in the Agriculture sector; (1)
- Incomplete time series data for CSC in living biomass for FL-FL;
- Biomass burning reported only for some categories, no CO₂ emissions reported (despite gain-loss method is applied for FL) (2), no CH₄ and N₂O emissions reported, no emissions reported for controlled burning on FL-FL or no emissions reported even wildfires occur;
- CO₂ emissions from land use conversions to SE from other state forests and private forests not reported;



Completeness issues (III)

LULUCF

- Coverage of land area for L-FL is incomplete (included only lands under intensive management - human induced);
- CSC not reported for some crops in CL and GL-GL;
- Fraction of FL (L-FL without human intervention) is not reported;
- Land conversions not reported for 1990.



Completeness issues (IV)

KP-LULUCF

- No estimates for CSC in mineral soil carbon for AR & D;
- No estimates for CSC in deadwood for AR;
- No estimates for DOM and mineral soils for AR;
- No estimates for CSC in all pools and removals from LB for D;
- No estimate for mineral soil carbon, litter and deadwood for AR and FM; (2)
- No estimates for CSC of deadwood and mineral soils for RV;
- CSC in deadwood reported as “NO” even FM is Key Category;
- No estimates of emissions from biomass burning from areas under the AR & D or from wildfires for AR & D and FM;

Completeness issues (V)

KP-LULUCF

- No data or sufficient verifiable information on omitted pools; (3)
- Forest land that illegally loses its original forest cover is not reported under D;
- N₂O from drainage of forest soils under FM reported as “NO”.



Accuracy issues (I)

LULUCF

- Inconsistent land representation for each LU and LUC category or not fully in line with IPCC GPG;
- Inconsistency of the map layers of country's LU database and the six IPCC land-use categories;
- LUC areas (in-out balance) and total area change did not match for two categories;
- CSC/ha of biomass continuously increased since 1990;
- High country-specific CSC/ha of organic soils for CL;
- Some pools are estimated using tier 1 for key categories;
- Appropriateness of use of default CO₂ EF for drained organic soils in managed boreal forests;
- Used AD are preliminary, Party waiting for NFI results;



Accuracy issues (II)

LULUCF

- Double counting of CO₂ from biomass burning under FL-FL (table 5(V)) and CSC in living biomass using stock change method;
- Unjustified use of a 12-year interval or other period different than 20 years for land-use conversion; (2)
- Wetlands with drained organic soils assumed to be drained before 1990 and to be in conversion as far as organic soils emit CO₂. Approach not consistent with the IPCC GPG;
- Method for estimating crown cover area not fully in accordance with IPCC GPG;
- Unjustified use of different methods for the Convention and KP;
- Use of estimation methods inconsistent with the IPCC GPG;
- Use of model that does not incorporate transfer of carbon stock from biomass due to forest fires to estimate CSC in DOM;



Accuracy issues (III)

LULUCF

- No data collected on parameters for areas of L-FL assuming that parameters are those in areas of FL-FL;
- CSC in mineral soils higher than in living biomass, due to the use of 1 year transition period (2) and not sound relationship with aboveground biomass;
- Issues with land classification/identification: each year additional forest areas are identified as “found forests” and all L-FL are reported under CL-FL (former LU is not known);
- Land classification system not in line with the IPCC GPG, using “past 20 years” for remaining land and converted land;
- Half of the area under OL is considered as unmanaged (issue relating with land classification/identification/definition);
- Use of stock change approach with CS factors for biomass gains, but use of gains-losses method for biomass losses.



Accuracy issues (IV)

KP-LULUCF

- CSC in above and below ground biomass pools not reported separately for AR & D activities;
- Base year calculation for RV not consistent with GPG for LULUCF;
- Appropriateness of applying living biomass growth models for AR to areas of RV;
- Current reported AR include AR area before 1 January 1990;
- Area of D have to be confirmed, but it may take up to 4 years;
- No adequacy of the method for AR area estimate;
- Plantations are classified as part of cropland, therefore conversion of plantations to non-forested land was not accounted as D;
- Use of tier 1 for litter for FL-FL (FM) and deadwood for A & R (KC).



Accuracy issues (V)

KP-LULUCF

- Area of annual D remains constant for 1990-2009, because only two data points in time are used;
- Aggregate reporting of mineral soils and organic soils under AR & D and FM and dead wood under RV (either included under living biomass or set as zero);
- Not provided geographical locations to report boundaries of areas that encompass units of land for Article 3.3 and 3.4 activities;(2)
- All LUC to forest are considered as afforestation even those converted from OL that is considered as unmanaged;
- Use of 1 year transition period for soils subject to D not in accordance with IPCC GPG;
- Biomass stocks prior to AR and after D are not accounted for.



Cross cutting issues (I)

General

- No QA/QC procedures and plan;
- Need for improvement plan targeting areas of great uncertainty: most of the Tier 1 and default parameters used should be replaced with Tier 2 or 3 and CS parameters; (4)
- Incorrect and inconsistent use of notation keys in sectoral background tables, NIR tables and KP-LULUCF CRF. (8)

LULUCF

- Need for improvement and more comprehensive QC procedures: CRF and NIR consistency and correction of errors; (7)
- No transparent information on sector-specific QC checks;
- Uncertainty assessment for LULUCF inconsistent, not performed at all or for some categories or not in accordance with GPG (7);



Cross cutting issues (II)

- Key category analysis not at the level of disaggregation suggested by the IPCC GPG;
- No transparent/detailed explanations on recalculations, including key methodological changes. (4)

KP-LULUCF

- QA/QC procedures not transparently described or not described/applied; (5)
- No application/information on uncertainty assessment; (2)
- No justification on performing recalculations only for L-FL but not for AR and FM.



Saturday Paper issues

- The NS based on NFI is not able to: (1) identify lands subject to AR; (2) identify changes in lands subject to AR; and (3) identify lands subject to AR since 1990;
- Incompleteness of the geographical coverage for estimations from AR & D, FM, CM and GLM;
- Problems with the method used for CO₂ emissions from soils due to deforestation;
- In the 2011 submission soil carbon emissions for FL-SE (deforestation) have not been reported, while in the 2010 such emissions were reported. No demonstration that the pool is not a net source was provided;
- Emissions from drained organic soils are reported as “NO” for AR and FM. No demonstration that the pool is not a net source was provided;



Saturday Paper issues

- CO₂ emissions from carbon pools under R and D are reported as “NO” (mineral soil) or “IE” (belowground biomass, litter). No demonstration that these pools are not net sources was provided;
- Emissions for RV in the base year only include emissions for the area of RV established in the base year. This is not in line with the GPG;
- CSC in litter is included in the estimate for mineral soil (“IE”) for AR & D. No clear documentation is provided;
- Implied CSC/ha for soils in AR is significantly higher when compared with values of neighbouring countries.



Some conclusions

- The majority of the issues identified correspond to completeness and transparency;
- A number of issues identified in previous reviews or in other 2011 reviews as potential problems have not identified in the Saturday Papers;
- The level of detail of the issues identified depends very much on the type of the review (IC vs centralized);
- Two KP Parties had no any significant problem identified in the ARRs;
- The number and variety of issues in the LULUCF and KP-LULUCF reporting continue to be significant;
- A number of Parties continue facing fundamental problems in their reporting.

Thank you!

