Observation and lessons with the use of IPCC software

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Context

- Ghana used the latest version of the IPCC 2006 software the preparation of its TNC because we adopted 2006 guidelines.
- Software is generally good because it is adaptable to fit our data situation.
- Other software were considered but were not selected because of their unique challenges
  - ALU (AFOLU)
  - UNFCCC GHG online software,
  - expanded-LEAP,
  - COPERT (transport)

Context (2)

- Observations have put together from the sectors experts and the inventory compilers who have had personal hands-on experience in the use of the software.

- Observation are in following areas
  - ✓user friendliness of the software,
  - ✓utility of software application, design interface
  - ✓computational capability
  - ✓portability and
  - ✓killing bugs.

Overview of software

- Spreadsheet for each sector, category, sub-category and activity level (AD and EF).
- Spreadsheet structure is “similar” to the CRF table used by annex 1 Parties
- Only allow for tier methodology estimation -
- Generate national time series on-the-fly but not sectors.
- Default EF in the 2006 guidelines are atomically linked to cell in a drop-down menu.
- Need to export result to excel before further analysis on gas by gas or sector time series can be done
- Summary and sectoral background tables (17/CP.8) are generated automatically.

General observations (1)

- Does not give options for creating GHG inventories either wholly or in part based on higher IPCC tiers - (higher tier estimation must done outside the software)

- *Creating reports and comparing results*

  ✓ The software does not give one opportunity to create dynamic multi-year inventory results by sectors or categories or gases.

- *Trend of comparison of reference and sectoral approach*

  ✓ Software is capable of showing results of the differences between reference and sectoral approaches per single year.

  ✓ Does not have the utility to plot the RA/SA over multiple years in the energy sector.

General observations (2)

- Portability with other data sources

  ✓ software allows one to import and export specific standard tables to and from excel using strict format.

  ✓ data in excel do not meet standard format in the software therefore importing of such data is restricted.

Energy sector

- *Manufacturing industries and construction (1.A.2*) – software provides option for inserting data at the main category or sub-category levels, however, if in a certain year in the time series, one mistakenly select say calculation at the category level and later want to switch back to the sub-category level, there is no flexibility of switching back and forth in the software.

- *Fuel conversions unit* – although the software have the options for inserting energy consumption in mass, volume or energy units, it does not have a catalogue of basic standard conversion unit in built in the software. So users have to refer other sources. It will be an improvement in the utility of the software.

- *Default emission factors* – some of the sub-categories does not have default emission factors for different fuels.

AFOLU sector (1)

- In rice cultivation, the area is compared against the area designated as rice-land ecosystem in the land-area tool. But this does not make sense in cases where I have mixed cropland (typical in Ghana) that also contains other crops next to rice. For instance, one could have 1m ha mixed cropland of which only 30% are rice in any given year.

- Cross-checking between 20-year land use changes and 1-year land-use changes. The software does not allow entering larger numbers in the 1-year land use change than in the 20-year table. Although it is intuitive, it is a problem because one could easily have a larger change in 1-year. This is true in particular for remaining areas - but also for the changes.

- There was great trouble with the tool for hwp and have not been able to make the import work. There need to more instructions on how to do this, e.g., some sort of template would be good.

AFOLU sector (2)

- It is only in some places in the software that it is possible to specify the non-value cell values. E.g., "included elsewhere" can only be input in very few places. This is a limitation as it comes up in many other places too.

- It is instructive to note that the calculation of N-emissions from SOM decomposition is not linked back to the C-emissions, one has to copy over the value by hand.

- The entering of land areas is cumbersome and error prone. The LU change matrices cannot be entered directly but a lot of clicking through tabs is necessary, this should be changed.

Thank you