Session II: Uncertainty Assessment (UA)

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Session overview

- 6 papers presented including Introduction by WGIA Secretariat

- The Session starts with questions: Why, How, and What?

- IPCC-TSU presentation (Simon Eggleston) on Methodology guidance answers some of these questions

- Country representatives share the experiences of using UA. The country presented their experiences include Japan, Korea, India and Vietnam

Why?--performing UA have various benefits--

- part of any inventory that compiles with Good Practice Guidance.
- information can be used for formulating mitigation approach and policy--where major sectors the abatements have a real impact are
- enhances the comparability among inventories
- reducing uncertainty means making the estimates better reflect the specific national circumstances
- Knowing uncertainty knows where to improve inventory.

How?---Methodologies available---

- **Simplified approach using spread sheets and standard statistics. The Inventory Guideline gives definitions and equations to perform this.**

- **Monte-Carlo approach, a more complex, need special software and is suitable where uncertainty is large and varied with times.**

What?--Country reports

- Japan uses the method described in GPG2000, *Committee for GHG Estimation Methods*
- performs UA annually on emission factors and Activity data
- examples are presented for Energy, Industrial Processes, LULUCF, Waste and Agriculture Sector.
  - UA of EF uses Standard Deviation of sample data of each fuel's calorific value, UA of AD is based on the given statistical error of solid fuels, liquid fuels, and gaseous fuels, in TJ given in the *General Energy Statistics*.
  - Japan's total uncertainty is lower than its of other Annex I Countries. Overall, ratio of GHG emissions from agricultural sector, which has high level uncertainties, is lower than other Annex I Countries.
  - In Tier 2 KCA, categories with high uncertainty are considered as key categories.

What?--Country reports

- India presents the overview of greenhouse gas inventory systems and some aspects of reducing uncertainty.
  - uncertainty is reduced through developing local emission factors, refinement of existing factor, moving towards higher tiers for Key sources, bridging data gaps, launching standard QA/QC.
  - Good databases are available for livestock and rice methane emission.
- Korea presents UA in waste sector using both Tier 1 and Tier 2 methods (Monte-Carlo method)
- Vietnam gives the general overviews of UA
  - applied Error Propagation Equations for the inventory year 1994, 1998, and 2000. The combined uncertainty ranges between 8.9-9.3%.

Discussion

- The Secretariat proposes that for those countries that have not yet performed UA, they are encouraged to do so and may present the results in the WGIA7 meeting;
    - countries express the interests and it is suggested that focus should be on Key Sources.
- Noted that although AU benefits inventory but uncertainty itself is related to data quality and collection. Thus it is important when designing the inventory and collecting the data to consider data uncertainty. The UA results are only as reliable as the emission inventories uncertainty.
- UA takes only a few hours.
- Effort on uncertainty analysis should be small in comparison to effort on inventory estimates themselves.