

## **Working group on growing stock, biomass and carbon**

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Participants introduced themselves shortly. First group has a brief overview on the background document.

Questions in the ToR were discussed question by question, and common recommendation was formulated to each question. Group decided to discuss question number 7 first, as it was a fundamental question.

*7. Should FRA continue to request countries to report on biomass and carbon? If no – should FRA get biomass and carbon figures from reports to UNFCCC and the Kyoto Protocol, or should FRA do its own estimates based on reported figures on growing stock?*

### Summary of the discussion

Forestry community should provide information on forests, and other processes could use this information. Inventory based information is very valuable for several processes. FRA could concentrate on stocks, and development of that reporting. Question was raised that should FRA provide estimates on litter and soil? It was felt that dropping out could influence development of methodologies. It was emphasised that data is same for several reporting processes, whereby methods should be harmonised. However, UNFCCC and Kyoto Protocol reporting have specific requirements. Regarding availability of data, group felt that coverage is more important than number of countries.

### Recommendation

Group recommends FRA continue to request countries to report on biomass and carbon.

*1. Should FRA 2010 request reporting growing stock to a standardized diameter threshold? If so, what threshold is most appropriate? What is needed to develop improved volume expansion factors and who should do it (FAO, research institutions, ...)?*

### Summary of the discussion on diameter threshold

Growing stock is one of the key variables FRA is providing. Now there is variation allowing countries to provide trends. Unified threshold would improve regional estimates. Instruments (conversion factors) should be provided if standardized diameter is required. Product or use of information is defining the minimum diameter. Countries

should be asked to provide conversion factors, not FAO, and it is up to countries how they prioritise work on conversion factors.

#### Recommendation on diameter threshold

Group recommends a standard minimum diameter, which a expert group should analyse. Countries should move towards standard minimum diameter, however, there needs to be some flexibility. If standard diameter is not used, it is necessary to provide some estimate what is outside the threshold. FAO should do further analysis on the accuracy, and should focus on key countries.

#### Summary of the discussion on volume expansion factors

Proper volume expansion factors would improve biomass and carbon estimates. Current knowledge should be mapped. Recently those have been published for Europe, earlier to North-America. IPCC GPG provides values/factors. Species and age /diameter class specific factors for regions/countries are needed. Regional, or rather national research institutes should work on this / provide expansion factors, while FAO could coordinate the work.

#### Recommendation on volume expansion factors

Group recommends FAO coordinated mapping, collection and providing regional/country specific factors. National research organisations should have responsibility to work on conversion factors, and to support/provide information to FAO in this.

*2. Should reporting on growing stock, biomass and carbon be done for forest and other wooded land separately? Or only for forest and drop reporting for other wooded land? If we maintain reporting for other wooded land, how should we address the issue of weak information?*

#### Summary of the discussion forest land and owl

It is valuable to provide information for both in order to have more complete picture. Information is used extensively in various processes/reporting frameworks. Due to inaccuracy of owl estimates it is better to keep estimates for forest land and owl separate. It was mentioned that trees outside forest are not necessarily included, but can/may be included.

#### Recommendation forest land and owl

Reporting on owl should continue separately, this way not increasing inaccuracy.

#### Discussion on weak information on owl

Weak information should be analysed critically how situation could be improved. Utilisation of new technologies may help, e.g. utilisation of remote sensing first and then field measurements.

#### Recommendation on weak information on owl

It is up to countries to prioritise this if they see it necessary. Thematic study on trees outside forests could be done.

*3. Should FRA apply a standard soil depth for country reporting, or do the adjustments as part of the analysis process? What soil depth is best for making global estimates? 30 cm or 100 cm?*

#### Summary of the discussion on standard soil depth

Estimation of soil carbon is not in the core of FRA, as there are other reporting systems covering it, too. Soil depth depends of the purpose where results are used for. Countries have now freedom to choose the depth. FAO used 30 cm for global estimates, which actually resulted in difficulties when results were comparing to some other estimates which used 100 cm depth. Approximately 75% of the countries that provided soil estimates (43 in total) used 30 cm depth, rest other depth.

#### Recommendation on soil depth

Consistency should be the target. Depth is depending of the use of estimates.

#### Summary of the discussion on what depth to use

Use of a thin layer may provide better coverage, while a deeper layer provides estimates that are closer to the total soil stock.

#### Recommendation on what depth to use

No recommendation – see discussion.

*4. Should FRA collect any other complementary information on biomass and carbon, thereby making the information more useful for other processes?*

#### Summary of the discussion

Species, age and diameter classes would help to improve biomass and carbon estimates as those are needed for conversion/expansion factors. Harvested wood (for energy and other uses) might be useful. Increment would be useful, however, majority of developing countries do not have data for that.

#### Recommendation

Biomass and carbon related to increment and harvested wood to be included step by step. Some regions could provide this already in FRA 2010.

*5. How to separate stock changes due to land use changes (deforestation, afforestation, natural expansion) and due to changes within the forests (degradation, improvement), the latter having proved difficult to assess due to weak trend information on growing stock, biomass and carbon.*

#### Summary of the discussion

This is indeed difficult issue, but more relevant for UNFCCC and Kyoto Protocol reporting in particular which is focusing on emissions and removals due to human

activities since 1990. Question was raised that is it relevant for FRA to separate stock changes due to land use changes? It was felt that for FRA better to concentrate on area and volume estimates. This requires geographically specified information on land-use changes (area changes), on trees/growing stock. It is difficult define causes – would require use of permanent plots or GIS. Whole issue is further complication, already difficulties in area and growing stock estimates. Should be reported if information available.

#### Recommendation

Should be reported if information is available.

*6. How can the reporting on growing stock, biomass and carbon stocks to FRA be further harmonized and coordinated with the reporting requirements to UNFCCC and the Kyoto Protocol. How can we best avoid overlap in country reporting, reduce the reporting burden and ensure that reported figures are consistent between the two processes?*

#### Summary of the discussion on harmonization and coordination

In reality different persons reporting to FRA and UNFCCC / KP, situation could be different in developed and developing countries. In ideal situation national correspondents and forest inventory persons involved in both reporting schemes. There is principal difference between FRA (technical reporting) and UNFCCC/KP (climate policy, legally binding) reporting.

#### Recommendation on harmonization and coordination

Group is recommending strong collaboration within countries reporting to FRA and UNFCCC/KP (between national correspondents to FRA and national focal points to UNFCCC/IPCC). Nominations need to be coordinated for IPCC "technical groups" related to forestry reporting to ensure best expertise. Definitions for variables need to be harmonised when possible.

#### Summary of the discussion on overlap, reporting burden and consistency

To be aware of other reporting requirements. FRA to have clear profile, not overlapping with other reporting systems. Encourage/suggest that FRA reporting should/could be involved at least to some extent to UNFCCC and KP reporting (as providing in most cases the underlying data). Underlying data and methods should be harmonised, although UNFCCC & KP have specific requirements. IPCC GPG to be utilised.

#### Recommendation on overlap, reporting burden and consistency

Liase with different reporting processes (FRA & UNFCCC/KP). Strengthen interagency cooperation (FAO & IPCC).

*8. Should FRA have the ambition to estimate emissions from forests? Or only report on stocks and stock changes and let other estimate the emissions? If estimating emissions, should also other greenhouse gases be included (N<sub>2</sub>O, CH<sub>4</sub>)?*

#### Summary of the discussion

FRA is better on stock estimation, while UNFCCC and KP are reporting emissions. FRA should provide data on area changes, stocks and stock changes, but not emissions nor other GHGs.

#### Recommendation

FRA to provide data on area changes, stock and stock changes, but not emissions nor other GHGs.

*9. What should be the role of FRA in the currently debated issue on “reducing emissions from deforestation in developing countries”?*

#### Summary of the discussion

FRA is providing comprehensive information on deforestation/change in forest+owl area. This should continue. Information on volume, biomass, carbon and deforested area would be valuable information on deforested area when possible, at least regional average volumes could be provided. "reducing emissions" is a matter of other processes. Remote sensing process would provide information. Other impacts of deforestation, for ecosystem services should be communicated, too.

#### Recommendation

FRA role is limited to provide information on area changes, additional information is limited. Publication of FRA results in a wider context, related to soil conservation, biodiversity etc. is recommended. Whole issue should be discussed in remote sensing task, and to discuss also is it FAO or countries to do remote sensing.

*10. Is there any need to create a small task force to deal with specific technical issues related to the reporting on growing stock, biomass and carbon as part of the FRA 2010 preparations? If so, what specific issues need further work and how should such a task force be composed?*

#### Summary of the discussion on the need

Needs are related to expansion factors, accuracy, inaccuracy in estimation of owl, harmonisation of methods, relationships between different reporting systems, overlaps, and gaps. How to provide information to various reporting systems. Evaluate if there is need to modify IPCC GPG methodologies. FRA experts, UNFCCC/KP reporting/methodology experts, national correspondents that are involved in both reporting, all regions, developed/developing countries should be involved. Need for consultation with the UNFCCC/KP reporting office. There is difference relative importance of variables (inaccuracy in one big country vs. in many small countries, how large area covered). Need for a deeper analysis of FRA 2005 data, e.g. diameter threshold, soil depth, expansion factors. Can we live with FRA 2005 towards FRA 2010,

do we need substantial changes? No, focus on quality (would require more resources to NFIs). Need to look beyond FRA 2010.

#### Recommendation

It is recommended to continue regional workshops (as early as possible), to provide capacity building and more resources for NFIs. Need to evaluate FRA 2005 by end of 2006, to identify need for task forces (e.g. on standard diameter, owl, expansion/conversion factors), results of which to be communicated to national correspondents by end of 2006.

*11. Any other matters of interest related to the theme.*

#### Summary of the discussion

- Trees outside forests (have been mentioned earlier)
- Support to countries lacking resources
- Many countries have / are improving their NFIs, and therefore FRA 2010 would have better accuracy and likely to report higher growing stocks, biomass and carbon, why there could be need for recalculation/updating earlier years results for trend analysis.
- If no new inventory, how to provide new information for FRA 2010: forecasting (to some variables easier than to some other); for FRA 2010 country may have real data for 2005, should it replace forecasted data?