United Nations Framework Convention on Climate Change

Agenda item 3 c
Paragraphs 39-46 of the annotated agenda

Issues relating to afforestation and reforestation CDM project activities

CDM EB 60
Bangkok, Thailand, 11-15 April 2011

UNFCCC secretariat
SDM programme

EB60 – Annotated agenda paragraph 40

New top down developed A/R methodology

“AR-AM0013: Afforestation and reforestation of lands other than wetlands”

New A/R methodology: "A/R of lands other than wetlands"

Main features of the first top-down developed large scale A/R methodology:

- **Broadly applicable – extends geographic reach of the CDM to under-represented regions;**
- **Allows accounting for C stock changes in all the five pools;**
- **Allows any of the baseline approaches;**
- **Uses modular structure – 8 approved tools as methodological modules.**

New A/R methodology: “A/R of lands other than wetlands”

Applicability:

- **Land subject to the project activity does not fall into wetland category;**
- **Soil disturbance attributable to the project activity does not exceed 10% of area in the following types of land:**
  - **Land containing organic soils;**
  - **Land which, in the baseline, is subjected to specified land-use and management practices and receives specified inputs;**
- **Carbon pools selected in project scenario are the same as those selected in the baseline.**

EB60 – Annotated agenda paragraph 41

New submission

AR-NM0038: “Afforestation and reforestation of degraded tidal forest habitats”

ARNM0038: “A/R of degraded tidal forest habitats”

The A/R WG:

- **Agreed upon the reformatted version of the PNM; and**

- **Requested the secretariat to send the reformatted draft methodology to the secretariat of the Ramsar Convention for their comments**

EB60 – Annotated agenda paragraph 43

Amendment of A/R methodology

AR-ACM0001: “Afforestation and reforestation of degraded land”

AR-ACM0001 Revision - Summary

Last revision

- **September 2010**

Use of the meth

- **3 projects registered**
- **4 projects at validation**
- **1 project requesting review**

Implications of amendment

- **Applicability expanded**
- **Uses modular structure**

AR-ACM0001 “Afforestation and reforestation of degraded land”

Main changes in the amendment:

Applicability:

- **Allows repeating of ploughing in less than 20 years, if credits from SOC are not claimed;**
- **Allows any of the three baseline approaches.**

Usability:

- **Uses modular structure – 11 approved tools as methodological modules.**

EB60 – Annotated agenda paragraph 44

Amendment of A/R methodological tool

"Estimation of GHG emissions due to clearing, burning and decay of existing vegetation attributable to a CDM A/R project activity"

"Estimation of GHG emissions due to clearing, burning …"

Main changes in the amendment:

Applicability:

- **Provides simplified approaches for estimation of emissions resulting from use of fire;**
- **Estimation methods for non-CO_2 emissions only.**

Usability:

- **Aligns the tool with other recently approved A/R methodological tools.**

EB60 – Annotated agenda paragraph 45

Amendment of A/R methodological tool

"Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities"

"Tool for estimation of change in soil organic carbon"

Main changes in the amendment:

Applicability:

- **Aligns units of the output parameter with other tools;**
- **Restricted to land subjected to certain land-use, management, and inputs in the baseline.**

Usability:

- **Lists out baseline land-use, management, and inputs under which the tool does not apply.**

“Tool for estimation of change in soil organic carbon”

Consequential changes:

The Board may wish to request the secretariat to update the approved calculation utility to reflect the changes resulting from the present amendment of the “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities”

EB60 – Annotated agenda paragraph 46

Revision to A/R methodological tool

"Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"

"Estimation of carbon stocks in trees and shrubs …"

Main changes in the amendment:

Applicability:

- **Includes steps for estimation of the margin of error of the mean;**
- **Extended to point sampling methods;**
- **Adds increment method for successive measurements of the same sample plots.**

Usability:

- **Provides guidance for:**
  - **Accounting of biomass in bark;**
  - **Specific scenarios in baseline (e.g. periodic slash-and-burn practices, growth of shrubs in abandoned lands, etc).**

"Estimation of carbon stocks in trees and shrubs …"

Process:

- **A/R WG requested the secretariat to develop the accurate equations for estimation of the margin of error of the mean;**

- **Following the request from the group, the secretariat developed and integrated the relevant accurate equations into the draft.**

"Estimation of carbon stocks in trees and shrubs …"

These two equations in the draft:

28. Margin of error for the stratum *i* is calculated as:

$$e_{\Delta b_{TREE,i,(t_1,t_2)}} = \frac{s_{\Delta b_{TREE,i,(t_1,t_2)}}}{\sqrt{n_i}} * t_{VAL}$$

29. Across strata the total margin of error for sampling at time t is equal to:

$$e_{\Delta b_{TREE,(t_1,t_2)}} = \frac{\sqrt{\sum_i \left(e_{\Delta b_{TREE,i,(t_1,t_2)}} * A_i\right)^2}}{\sum_i \left(\Delta b_{TREE,i,(t_1,t_2)} * A_i\right)} * 100 \ \%$$

which allow approximate estimation of margin of error …

"Estimation of carbon stocks in trees and shrubs …"

Were replaced by the following two equations:

Variance of the mean change in tree biomass is estimated as:

$$s^2_{\Delta b_{TREE}} = \sum_{i=1}^{M} w_i^2 * \frac{s^2_{\Delta,i}}{n_i}$$

Margin of error of the mean change in tree biomass is estimated as:

$$e_{\Delta b_{TREE}} = t_{VAL} * s_{\Delta b_{TREE}}$$

which allow exact estimation of margin of error.

“Estimation of carbon stocks in trees and shrubs …”

Process:

The Board may wish to approve the draft amended tool with the equations allowing the exact estimation of margin of error.

thank you for your attention