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**SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE**

**Twentieth session**

**Bonn, 16–25 June 2004**

**Item 3 (a) of the provisional agenda**

**Methodological issues**

**Good practice guidance for land use, land-use change and forestry**

**(LULUCF) activities under the Kyoto Protocol, harvested wood products**

**and other issues relating to LULUCF**

## **Definitions and methodological options relating to degradation of forests and devegetation of other vegetation types**

### **Submissions from Parties**

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its nineteenth session, welcomed the report by the Intergovernmental Panel on Climate Change entitled *Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types* (FCCC/SBSTA/2003/15, para. 24 (f)). It decided to further consider the information contained in this report at its twentieth session in accordance with paragraph 2 (a) of decision 11/CP.7.
2. The SBSTA invited Parties to submit to the secretariat, by 15 March 2004, their initial views on the report referred to in paragraph 1 above, including on possible definitions to account for anthropogenic greenhouse gas emissions resulting from direct human-induced degradation and devegetation activities, which could be used in the context of the Kyoto Protocol.
3. The secretariat has received three such submissions. In accordance with the procedure for miscellaneous documents, these submissions are reproduced\* in the language in which they were received and without formal editing.

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\* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

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PAPER NO. 1: ARGENTINA

The Government of Argentina thanks the SBSTA for its invitation to Parties<sup>1</sup> to express their views on the IPCC report entitled *Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types*<sup>2</sup>, and also contribute to develop definitions to account for anthropogenic GHG emissions from direct human-induced degradation and devegetation activities.

The Government of Argentina already commented on the contents of the *Report*, when governments were invited to revise its latest two drafts. The Government of Argentina agrees with its final version, approved by the IPCC last November 2003.

After a thorough discussion of several tentative definitions for the activities of both forest degradation and devegetation of non-forest vegetation types, the *Report* does not own any particular definition of each of them. None of the definitions considered in it wholly satisfied the criteria set in subsection 2.1 (Elements of Definitions) of the *Report*. Nevertheless, a tentative framework for the definition of each activity, built upon characteristics an operationally effective definition should have, is offered instead. In what follows, the Government of Argentina intends to develop quantitative definitions of forest degradation and devegetation on the basis of their respective framework definitions as given in the *Report*.

A. ON THE DEFINITION OF *FOREST DEGRADATION*

The framework definition of forest degradation given in the *Report* asserts that activity results in

*“A direct human-induced long-term loss (persisting for X years or more) of at least Y% of forest carbon stocks [and forest values] since time T and not qualifying as deforestation or an elected activity under Article 3.4 of the Kyoto Protocol.”*

The Government of Argentina considers that

- 1) The quantification of forest degradation should be made through the loss of carbon stocks only, without any consideration for putative losses in other forest services or values. As these losses usually are not easily quantifiable, they should receive a particular normative treatment by countries, and a specific designation as well, e.g. “forest debasement”, to distinguish this activity from that affecting carbon stocks.
- 2) It is practically unfeasible to quantify what is meant by “long-term” loss or “persisting X years or more” in a general definition of an activity which would be carried out on diverse tree-ecosystems (proper forests and plantations, wooded grasslands, etc.) in several and sundry climates. However, some kind of quantification of any of those terms or their outright replacement by other ones will be needed to avoid subjective interpretations leading to the lessening of the usefulness of the definition. A tentative quantification of the losses associated with degradation could take any of the following forms:
  - a) The loss of carbon from a forest’s stock should be larger than 60% of the carbon present anytime in the last 3 to 8 years before the latest measurement of the forest’s carbon stock. The justification of this proposal is given in the appendix to the present submission.

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<sup>1</sup> FCCC/SBSTA/2003/L.22, paragraph 7.

<sup>2</sup> to be called *Report*, in what follows.

- b) The average rate of carbon stock loss should be between 10% to 30% of carbon stock per hectare and year during 3 to 8 consecutive years.

In view of (i) and (ii), the Government of Argentina offers for consideration the following alternative definitions of *forest degradation*:

Definition 1

“As forest degradation is understood the direct human-induced loss of at least 60% of forest carbon stocks anytime after 3 to 8 years have elapsed since the latest measurement of them, and to the extent that loss does not qualify as deforestation.”

Definition 2

“As forest degradation is understood the direct human-induced average rate of carbon stock loss between 10% to 30% of carbon stock per hectare and year during 3 to 8 consecutive years., and to the extent that loss does not qualify as deforestation.”

B ON THE DEFINITION OF *DEVEGETATION OF OTHER VEGETATION TYPES*

In the *Report*, the following outline of a tentative definition for the present activity is

*A direct human-induced long-term loss (persisting for X years or more) of at least Y% of vegetation [characterized by cover / volume / carbon stocks] since time T on vegetation types other than forest and not subject to an elected activity under Article 3.4 of the Kyoto Protocol. Vegetation types consist of a minimum area of land of Z hectares with foliar cover of W%.*

It is readily seen that this scheme of definition is very similar (except for the last sentence) to the one proposed in the *Report* for forest degradation. The same arguments advanced in paragraph A(2) above are valid for quantifying the loss of any property (e.g. cover, volume or carbon stocks), and the time taken to develop it. As to the characterization of vegetation types (last sentence of the scheme), it seems reasonable to set the minimum area at 0.05 hectares, to highlight the opposing character of *devegetation vis-à-vis* revegetation, and a range 10% to 20% of minimum foliar cover.

Therefore, the Government of Argentina suggests the following definitions

Definition 1

“As *devegetation of vegetation types other than forest* is understood the direct human-induced loss of at least 80% of either carbon stocks, tree volume or plant cover anytime after 5 to 15 years have elapsed since the latest measurement of each of them. Vegetation types consist of a minimum area of land of 0.05 hectares with foliar of at least 10%.”

Definition 2

“As *devegetation of vegetation types other than forest* is understood the direct human-induced loss of at least 80% of either carbon stocks, tree volume or plant cover anytime after 5 to 15 years have elapsed since the latest measurement of each of them. Vegetation types consist of a minimum area of land of 0.05 hectares with foliar of at least 10%.”

APPENDIX

The amount  $Q$  of some property  $X$  (e.g. carbon stocks) remaining after some number of periods  $y$  in each of which a fraction  $r$  of that property was lost can be calculated as

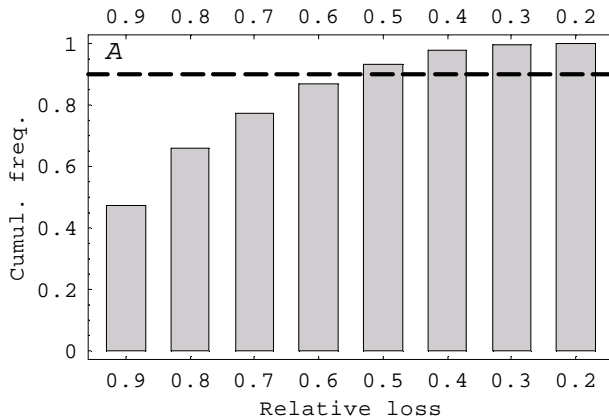
$$Q = X \times (1 - r)^y$$

In order to estimate the long-term loss of  $X$ , it suffices to compute the exponential factor in the formula,  $(1-r)^y$ , because it expresses the "relative loss" of  $X$  at the end of  $y$  periods.

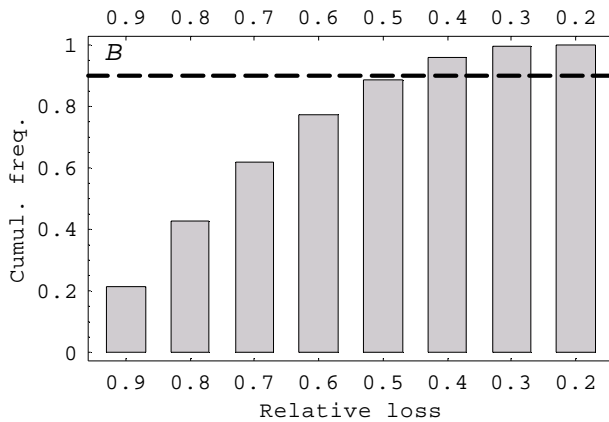
The value of the "relative loss" was calculated for ten thousand paired pseudorandom values of  $r$  and  $y$ , taken from the range 0.1 to 0.6 for  $r$ , and the range 3 to 8 in unit-steps for  $y$ . The resulting values of the relative loss were grouped into frequency classes of width 0.1 units. The cumulative sum of the class-frequencies is shown in the bar-chart "A" below.

The numerical values used in the definition of forest degradation as threshold for the relative carbon stock loss corresponded to the 90 percentile of the cumulative frequencies of relative loss shown in the bar chart "A". The choice of that particular percentile was arbitrary.

Bar chart "B" shows the cumulative frequencies of the relative loss calculated with  $r$  values between 0.1 and 0.4, and  $y$  values in the range of 3 to 8 cycles. This chart illustrates the case of a less intense degradation of a forest—indicated by the smaller maximum for  $r$ —; the threshold for relative loss of the carbon stock would be about 0.5.



Legend. Cumulative frequencies of relative loss for (A)  $r$  between 0.1 and 0.6 or (B)  $r$  between 0.1 and 0.4, and 3 to 8 periods. The broken line indicates the 90 percentile of the cumulative frequencies.



PAPER NO. 2: IRELAND ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES AND SUPPORTED BY THE FOLLOWING ACCEDING STATES AND CANDIDATE COUNTRIES: ESTONIA, HUNGARY, LATVIA, MALTA, POLAND, SLOVENIA, BULGARIA AND ROMANIA

**SUBMISSION BY IRELAND ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES**

**THIS SUBMISSION IS ALSO SUPPORTED BY THE FOLLOWING ACCEDING STATES AND CANDIDATE COUNTRIES:**

**Estonia, Hungary, Latvia, Malta, Poland, Slovenia, Bulgaria, Romania**

**Dublin, 19 March 2004**

This submission provides initial views on the Intergovernmental Panel and Climate Change report: *Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types*, including possible definitions to account for anthropogenic GHG emissions resulting from direct human-induced degradation and devegetation activities, which could be used in the context of the Kyoto Protocol, as requested in FCCC/SBSTA/2003 L.22.

**Background**

Paragraph 2 (a) 11.CP/7 of the Marrakesh Accords requests that SBSTA consider and adopt, following the completion of methodological work by the IPCC, methodologies to account for direct human induced degradation of forests and devegetation of other vegetation types, with a view to recommending to COP10 a decision on whether such activities should be included in the first commitment period. The IPCC work – Task 2 - is now complete and a report has been issued.

**Introduction**

The EU welcomes the IPCC report as a useful first step in addressing concerns that the selection of eligible activities under Article 3.4 could give rise to incomplete and unbalanced accounting if certain types of degradation or devegetation activities are not included. We are of the view however, that many of these concerns will be met within the reporting and accounting frameworks of existing activities under Articles 3.3 and 3.4. Furthermore, the advent of the IPCC Good Practice Guidance for LULUCF has clarified a number of reporting issues that were of concern during the formulation of the Marrakesh Accords, such as the consistent representation and reporting of land areas, and the treatment of carbon pools and emissions.

**Definitions and related issues**

The report points out key features of the definitions of forest degradation and devegetation, including identification of land areas, threshold values to be considered and discusses their ability to be measurable and quantifiable.

*Forest management and forest degradation*

The report points out in its key findings, that if forest management is elected, then all emissions and removals on the areas of land covered will be reported in a symmetric way. A net removal or emission may occur in forest outside the Article 3.4 framework but this will not affect the symmetrical reporting (emissions and removals are fully reported on lands within the accounting framework). In addition, the values for forest management in the Appendix to 11.CP/7 (Marrakesh Accords) are based for most Parties on FAO or other data on the actual carbon sink in all managed forests, thus including areas with a

net increase as well as areas with a net decrease in carbon stocks. Losses or gains in carbon stocks that occur on forest areas not included by the Marrakech Accords may be included in future commitment periods; and any remaining concerns regarding forest degradation in these areas would be best dealt with in negotiations for the second commitment period and beyond, taking into account the work that the IPCC has done and experience in the use of the Good Practice Guidance.

Furthermore, as the report points out in its key findings, Annex 1 Parties are involved in international initiatives and reporting requirements that address the forest degradation issue.

Article 3.3 has, of course, a mandatory requirement to report and account for deforestation and for carbon losses and emissions in afforestation since 1990.

Based on these considerations the EU believes that the definition of forest degradation should be based on losses in carbon stocks and emissions resulting from direct human induced activities (excluding temporary decreases in carbon stocks resulting from forest management). Furthermore the EU view is that for the first commitment period the activity forest degradation would not be electable. The EU notes however that decreases as well as increases in carbon stocks would be included as part of forest management.

#### *Devegetation*

Regarding devegetation of other (than forest) vegetation types the EU view is that it should in general be treated as a direct human induced change in carbon stocks through the removal of vegetation (excluding changes within the normal management cycle) that does not meet the definitions of deforestation or forest degradation. Furthermore, the EU view is that for the first commitment period the activity devegetation would not be electable. The EU notes, however that decreases as well as increases in carbon stocks would be counted on land areas covered by revegetation, cropland management and grazing land management. Remaining concerns about devegetation on land not covered by these activities would be dealt with during negotiations for the second commitment period and beyond, taking into account the work that IPCC has done and experience in the use of the Good Practice Guidance.

PAPER NO. 3: JAPAN

Japan's view on the report by the IPCC entitled *Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types*

1. Japan recognises that the IPCC report, *Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types* (hereinafter referred to as "the degradation report"), properly responds to the invitation of the decision 11/CP.7 and retains qualified substances and presentation. Japan highly appreciates efforts and deliberation of authors and the IPCC, in particular its Technical Support Unit of National Greenhouse Gas Inventory Programme, and supports its findings.
2. The degradation report complements another IPCC report entitled Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF). In particular, conclusions on scale, accounting and reporting (Section 1.4 "Key Findings") in the report respond to the Chapter 4 of GPG-LULUCF (Step 2.4 in Section 4.1.1 and, Sections 4.2.2.2, 4.2.7.1 and 4.2.7.2). Considering the two IPCC reports together, Japan believes following points are derived from these two reports.
  - i. Most Parties included in Annex I of the UNFCCC have been submitting national reports on forest under international initiatives and reporting arrangements (e.g. FAO). Since these reports are described in light of national Forest Codes of Practice that govern sustainable forest management at stand and local levels, these national reports are considered to include the information on forest degradation activities.
  - ii. Meanwhile, information on activities under the Article 3.3 of the Kyoto Protocol is enclosed in both the reporting under the UNFCCC National Greenhouse Gas Inventory including National Inventory Report, and that under the Kyoto Protocol. Combining the information in these two (UNFCCC and Kyoto Protocol) reports with forest reporting mentioned in sub-paragraph i above, comprehensive snapshots and trends in the state of forest sinks in the Parties will be provided. This means that the carbon stock changes resulting from forest degradation activities outside the accounting framework of the Kyoto Protocol will be captured in a quantifiable way in the UNFCCC inventory. Japan supposes, therefore, it is unnecessary to create additional reporting category for forest degradation activity and to input further resources into this work.

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