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SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE  
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The Hague, 13-18 November 2000  
Agenda item 9 (a)

**METHODOLOGICAL ISSUES**

**LAND-USE, LAND-USE CHANGE AND FORESTRY**

**Text by the Chairman**

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## I. INTRODUCTION

### A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at the first part of its thirteenth session, invited the Chairman, with the assistance of the secretariat, to further develop the annex to document FCCC/SBSTA/2000/10/Add.2, taking into account oral and written views expressed by Parties at the first part of its thirteenth session, notably document FCCC/SBSTA/2000/MISC.8, and views expressed by Parties during the informal consultations held in Viterbo, Italy, from 9 to 11 October 2000, and to present a revised text for consideration at the second part of its thirteenth session, with a view to recommending a draft decision text to the Conference of the Parties at its sixth session, for adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its first session (FCCC/SBSTA/2000/10, para. 33 (b)).

### B. Scope of the note

2. This note contains the text elaborated by the Chairman in accordance with the above mandate. In preparing this text, the Chairman has drawn on the views expressed at the first part of the thirteenth sessions, in the submissions from Parties, and during extensive bilateral and group consultations, including informal consultations held in Viterbo, Italy from 9 to 11 October. The Chairman hopes that this text, which has been further developed, will be a useful addition to the document already available (FCCC/SBSTA/2000/10/Add.2), which will remain on the table. In view of the large number of issues that remain to be resolved, and the limited time remaining, the document has been designed by the Chairman to facilitate and advance negotiations at the second part of the thirteenth session.

## II. DRAFT DECISION RELATED TO ARTICLE 3.3, 3.4 AND 3.7 OF THE KYOTO PROTOCOL

*The Conference of the Parties,*

*Noting* Article 3.3, 3.4 and 3.7 of the Kyoto Protocol,

*Recalling* its decisions 1/CP.4, 8/CP.4, 9/CP.4 and 16/CP.5,

*Acknowledging with appreciation* the scientific advice provided in the *Special Report on Land-use, Land-use Change and Forestry* prepared by the Intergovernmental Panel on Climate Change,

*Having considered* the relevant recommendations of the Subsidiary Body for Scientific and Technological Advice,<sup>1</sup>

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<sup>1</sup> SBSTA report symbol and paragraph number.

1. *Recommends* that the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, at its first session after the entry into force of the Protocol, adopt the attached draft decision;

2. *Requests* the Subsidiary Body for Scientific and Technological Advice to elaborate, for consideration at its \_\_\_ session, the reporting requirements, including standard formats where appropriate, taking into account the input of the Intergovernmental Panel on Climate Change (IPCC) as requested in paragraph 3 below, to be included in the guidelines for the preparation of information under Article 7 of the Kyoto Protocol, to be recommended for adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, at its first session, on the following issues:

(a) ...

(b) ...

3. *Invites* the Intergovernmental Panel on Climate Change to perform the following tasks, with a view to submitting the results to the Conference of the Parties for consideration at its eighth session:

(a) Elaborate methods to account for changes in carbon stocks and emissions by sources and removals by sinks resulting from land-use, land-use change and forestry activities under Article 3.3 and 3.4 of the Kyoto Protocol on the basis of the *Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories* and taking into consideration all guidance contained in the annexes to draft decisions -/CMP.1 and -/CP.6 (*the latter being decisions on Articles 6 and 12*);

(b) Prepare a report on good practice guidance and uncertainty management related to verification, measurement, estimation, assessment of uncertainties, monitoring and reporting of net carbon stock changes and anthropogenic greenhouse gas emissions by sources and removals by sinks in the land-use, land-use change and forestry sector;

(c) Examine the feasibility of developing and the implications of applying biome-specific forest definitions, taking into account the work of other relevant international bodies, such as the Food and Agriculture Organization of the United Nations. In its consideration, the Intergovernmental Panel on Climate Change is invited to assess the impact on the estimation of anthropogenic emissions by sources and removals by sinks in the land-use change and forestry sector, and possible required amendments to, national systems of Parties that would result from a changeover from using one forest definition to using biome-specific forest definitions;

(d) Prepare guidance on methodologies for the possible inclusion of activities of degradation and/or aggradation under Article 3.4 of the Kyoto Protocol.

[Draft decision -/CMP.1

**Land-use, land-use change and forestry**

*The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol,*

*Recalling* Articles 2 and 3 of the United Nations Framework Convention on Climate Change, and Articles 2.1(a), 3.3, 3.4, 3.7 and 5.2 of the Kyoto Protocol,

*Further recalling* decisions 1/CP.4, 8/CP.4, 9/CP.4 and 16/CP.5 of the Conference of the Parties,

*Affirming* that:

(a) Any land-use, land-use change and forestry activity carried out in addition to the commitments made under Article 4.1(d) of the Convention for the purposes of determining compliance of Annex I Parties with their quantitative emission limitation and reduction objectives under the Kyoto Protocol, must not change the global effect of the Kyoto Protocol, which is to mitigate climate change in the first commitment period equivalent to reducing Annex I anthropogenic emissions by sources covered by Annex A to the Kyoto Protocol by an aggregate proportion of at least 5 per cent with reference to their 1990 levels, in accordance with Article 3.1 of the Kyoto Protocol;

(b) For the purposes of determining compliance of Annex I Parties with their quantitative emission limitation and reduction objectives, any land-use, land-use change and forestry activity must not result in an increase of anthropogenic emissions by sources minus removals by sinks deriving from the application of removals by sinks of carbon dioxide and indirect nitrogen fertilization effects;

(c) In view of the impact of climate change on forests and desertification, forest conservation and rehabilitation of degraded vegetation cover are important climate change adaptation activities, and as such could be included among those activities to benefit from the share of proceeds of the mechanisms of the Protocol intended to meet the cost of adaptation. This is without prejudice to decisions on land-use, land-use change and forestry activities in the mechanisms of the Kyoto Protocol;

(d) The rules for the inclusion of land-use, land-use change and forestry activities in the accounting of Annex I countries, for purposes of compliance with their commitments under the Kyoto Protocol, must not imply a transfer of such commitments to a future commitment period;

(e) Carbon removed by land-use, land-use change and forestry activities shall be considered as a temporary removal. Any Annex I Party that makes use of such removal to

achieve compliance with its Kyoto Protocol commitment shall continue to be responsible for the equivalent emission reduction at the appropriate point in time;

(f) In the methodologies to account for emissions by sources and removals by sinks in the land-use, land-use change and forestry sector, no consideration shall be given to the simple presence of stocks of carbon, in line with the provisions of Article 5.2 of the Kyoto Protocol,

*Wishing* to design a balanced, scientifically and environmentally-sound system of definitions and accounting, and to establish simple and practical rules and methodologies for the implementation of activities under Article 3.3 and 3.4 of the Kyoto Protocol, which can reduce uncertainty and can be implemented cost-effectively, taking into account the feasibility of designing such a system,

*Affirming the need* to maintain incentives to reduce emissions from fossil fuel combustion and other sources,

*Acknowledging* that all Parties must promote sustainable management of forests and other ecosystems, conserve biological diversity, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems,

*Recognizing* the importance of protecting and enhancing sinks and reservoirs of greenhouse gases in achieving the quantified emission limitation and reduction commitments of the Parties included in Annex I,

*Aware of* the estimated magnitude and uncertainties related to the residual terrestrial uptake,

*Mindful* of the potential for sink reversal,

*Seeking* to avoid double counting of emissions minus removals or carbon stock changes,

*Recalling* the need for time-series consistency,

*Noting* potential synergies between the implementation of Article 3.3 and 3.4 and action by Parties to meet the objectives of the Convention on Biological Diversity, the Convention to Combat Desertification, the Convention on Wetlands (Ramsar Convention), and Agenda 21,

*Bearing in mind* the different national circumstances of each Party regarding the protection and enhancement of sinks and reservoirs,

*Noting* that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost and should therefore be comprehensive,

cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors,

*Noting* the necessity to provide appropriate incentives for sustainable forest management through definitions of activities under Article 3.3 and 3.4 as well as their associated accounting rules,

*Affirming* that the inclusion of broad additional activities under Article 3.4 in the first commitment period must be consistent with the provisions of the Convention and the Kyoto Protocol,

*Having considered* decision -/CP.6 adopted by the Conference of the Parties at its sixth session,

1. *Adopts* the text contained in the annex to this decision;
2. *Requests* the Subsidiary Body for Scientific and Technological Advice to review, following methodological work of the Intergovernmental Panel on Climate Change on this subject, the definition of a forest as set forth in the annex to this decision, and the application of a single forest definition for each Party, for the second and subsequent commitment periods, and to explore the use of biome-specific forest definitions, for consideration at its ninth session.

## Annex

### **A. Definitions**

1. For land-use, land-use change and forestry activities under Article 3.3 and 3.4 of the Kyoto Protocol, the following definitions shall apply:

(a) “Forest” is land with tree crown cover (or equivalent stocking level) of more than 10-30 per cent and area of more than 0.3-1.0 hectares (ha). The trees should be able to reach a minimum height of 2-5 metres (m) at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground; or open forest formations with a continuous vegetation cover in which tree crown cover exceeds 10-30 per cent, extending over an area of more than 0.3-1.0 ha. Young natural stands and all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 m are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention or natural causes but which are expected to revert to forest;

(b) “Afforestation” is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forest land through planting, seeding, [and/or the promotion of natural regeneration];

(c) “Reforestation” is the direct human-induced conversion of non-forest to forest through planting, seeding, [and/or the promotion of natural regeneration], on land that was forested, but that has been converted to non-forest land. [For the first commitment period, additions to a Party’s assigned amounts as a result of reforestation activities, will be limited to reforestation occurring on those lands that did not contain forest on 1 January 1990;]

(d) “Deforestation” is the direct human-induced conversion of forest land to non-forest land;

(e) “Revegetation” is defined as direct human-induced activities to increase carbon stocks on sites [with minimum vegetation cover and low organic matter content] through the establishment of vegetation that covers a minimum area of 0.3 ha and does not meet the definitions of afforestation and reforestation in Article 3.3. Acts of revegetation include:

- (i) Establishment of windbreaks and shelterbelts;
- (ii) Establishment of native vegetation;
- (iii) Agroforestry;
- (iv) Promotion of natural regeneration;

(f) “Forest management” [means the stewardship and use of forests in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and potential to fulfil, now and in the future, relevant ecological, economical and social functions, at local, national and global levels, and that does not cause damage to other ecosystems] [is the tending of forests to produce goods and services] [is considered to include a combination of individual

management activities related to multiple uses and services of forests.] [“Forest management” is the protection of natural forest through human-induced activities such as a ban on tree cutting, and urban greening, which are activities in urban parks, and alongside, *inter alia*, roads and rivers, as part of urban land management schemes;]

or

“Forest management” [is a combination of individual management practices related to multiple uses and services of forests.] [“Forest management” is the protection of natural forest through human-induced activities such as a ban on tree cutting, and urban greening, which are activities in urban parks, and alongside, *inter alia*, roads and rivers, as part of urban land management schemes;]

(g) “Cropland management” is a set of practices on land on which agricultural crops are grown and on land that is considered cropland but is not being used for crop production;

(h) “Grazing land management” comprises all practices aimed at manipulating the amount and type of forage and livestock produced;

2. Each Party in Annex I [The Conference of the Parties] shall, for the purposes of applying the definition of “forest” as contained in paragraph 1 (a) above, select a single minimum tree crown cover value between 10 and 30 per cent, a single minimum land area value between 0.3 and 1 ha and a single minimum tree height value between 2 and 5 m. Upon selection, each Annex I Party’s forest definition shall be fixed through the first commitment period.

### **B. Eligibility**

3. For the purposes of Article 3.3, eligible activities are those direct human-induced afforestation, reforestation and/or deforestation activities that meet the requirements set forth in this annex and that have taken place on or since 1 January 1990 or in a year subsequent to 1990, but before the end of December of the last year of the commitment period.

4. Implementation of land-use, land-use change and forestry activities included under the provisions of Article 3 of the Kyoto Protocol shall be consistent with [guided by] the objectives and principles of, and any decisions taken under, the UNFCCC and the Kyoto Protocol, the Convention on Biological Diversity, the Convention to Combat Desertification, the Convention on Wetlands (Ramsar Convention), the Rio Forest Principles, Agenda 21, International Labour Organization Convention 169 and other relevant agreements, and regional processes such as the Montreal and/or Helsinki processes, and taking into account the United Nations process on forests (Intergovernmental Forum on Forests and the former Intergovernmental Panel on Forests).

or

Parties should take into account, as appropriate, ancillary environmental effects in developing their domestic approaches related to implementation of Article 3.3 and 3.4, including effects on biodiversity, soil, air and water quality, the capacity of ecosystems to adapt to climate



change, risks of degradation, long-term vulnerability to disturbance by fire, pests and invasive species, and the protection of primary and maturing secondary native forests.

5. [No additional activities shall be pursued under the provisions of Article 3.4 during the first commitment period [, unless the Conference of the Parties decides that the issues of scale, uncertainty and risk related to the sinks are resolved].]

or *Insert text from paragraph 30 in section on reporting.*

6. The following direct human-induced activities, other than afforestation, reforestation and deforestation, and their associated greenhouse gas emissions by sources and removals by sinks, shall be accounted for under Article 3.4 in the second and subsequent commitment periods: [revegetation], [forest management], [cropland management], and [grazing land management].

or

The Conference of the Parties decides to establish, prior to the fixing of quantified objectives for the second commitment period, a list of agreed additional activities for use in the second and subsequent commitment periods, together with the rules, modalities and guidelines for their accounting.

### **C. Accounting specific to Article 3.3**

7. For the purposes of determining the area of deforestation to come into the accounting system under Article 3.3, Parties shall determine the forest cover using preferably the same spatial resolution as is used for the determination of afforestation and reforestation, but not a resolution that exceeds [1] [10] ha.

8. [A Party shall not use carbon stock changes resulting from Article 3.3 activities to help meet commitments through additions to its assigned amount if its total forest carbon stock is falling, as shown by its greenhouse gas inventory estimated in accordance with the *Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories* and any good practice guidance adopted by the Conference of the Parties. For determination of this total forest carbon stock, a Party may choose to exclude carbon stock changes due to damage by natural disturbances from its inventory estimates.]

9. [Debits resulting from harvesting in the first commitment period [and other natural and human-induced effects] following afforestation and reforestation since 1990, shall not be greater than credits earned from sequestration on that unit of land.]

### **D. General accounting**

10. Accounting of net changes in carbon stocks and net emissions of greenhouse gases other than carbon dioxide (CO<sub>2</sub>) resulting from land-use, land-use change and forestry activities under Article 3 shall begin with [the onset of the activity or] the beginning of the commitment period [, whichever comes later].

11. Once land is accounted for under Article 3, all greenhouse gas emissions and removals resulting from this land must be accounted for over subsequent and contiguous commitment periods.
12. Parties shall account for changes in carbon pools associated with land-use, land-use change and forestry activities under Article 3 which shall include: above-ground biomass, below-ground biomass, litter, dead wood, and soil organic carbon, in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* as required by Article 5.2, any future elaboration of these guidelines, or parts of them, and any good practice guidance on land-use change and forestry adopted by the Conference of the Parties.
13. Parties shall account for all carbon pools that are a source of greenhouse gas emissions as a result of land-use, land-use change and forestry activities, but may choose not to account for a given pool in a commitment period if transparent and verifiable proof is provided that the pool in question is not a source.
14. Net non-CO<sub>2</sub> greenhouse gas emissions, resulting from land-use, land-use change and forestry activities under Article 3 shall be [estimated, reported, and] accounted for in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* as required by Article 5.2, any future elaboration of these guidelines, or parts of them, and any good practice guidance on land-use change and forestry adopted by the Conference of the Parties.

**E. Elevated CO<sub>2</sub>, nitrogen deposition, climate variability, and dynamic age structure**

15. Net greenhouse gas emissions or removals as a result of elevated atmospheric CO<sub>2</sub> concentrations, nitrogen deposition, natural climate variability, and dynamic effects of age structure in forest ecosystems, shall be accounted for together on each area of land where an eligible activity has taken place.

or *Instead of paragraph 15, paragraphs 16-19.*

16. Net greenhouse gas emissions and/or removals resulting from land-use, land-use change and forestry activities undertaken under Article 3.4 of the Kyoto Protocol can only be used for meeting the commitments of Article 3 of the Kyoto Protocol when accepted statistical tests demonstrate that such activities have a significant, detectable, intentional, direct human-induced effect on emissions and/or removals.

17. For land-use, land-use change and forestry activities where this cannot be demonstrated statistically, modelling techniques shall be used to factor out the effects of nitrogen deposition and elevated atmospheric CO<sub>2</sub> concentrations based on data and information from:

(a) Control plots used for comparison between land subject to the activity and land not subject to it;

(b) Data from research plots;

(c) Existing forest survey and planting data collected in the last 10 years.

18. Where such models are not used, all net greenhouse gas emissions and/or removals that enter the accounting systems shall be reduced by XX per cent.

19. [For forest management activities, models shall be used to factor out the dynamic effects of age structure in forest ecosystems.]

20. Parties may choose not to account for carbon stock changes due to natural climate variation on timescales larger than the commitment period, provided this approach is applied consistently during all commitment periods.

#### **F. Additions and subtractions from Parties' assigned amounts**

21. Subject to all other provisions in this annex, for the first commitment period, the adjustment to a Party's assigned amount shall be equal to the net greenhouse gas emissions or removals measured as verifiable net changes in carbon stocks, and net non-CO<sub>2</sub> greenhouse gas emissions during the period 1 January 2008 to 31 December 2012 resulting from human-induced land-use, land-use change and forestry activities under Article 3 since 1 January 1990. Where the result of this calculation is a net sink, this value shall be added to the Party's assigned amount. Where the result of this calculation is a net emission, this value shall be subtracted from the Party's assigned amount.

22. [Subject to all other provisions in this annex, for the first commitment period, the total of all additions and subtractions to the assigned amount of Parties included in Annex I to the Convention, resulting from the application of land-use, land-use change and forestry activities under Article 3.3 and 3.4 shall not exceed XX gigagrams of CO<sub>2</sub> equivalent.]

23. [Subject to all other provisions in this annex, for the first commitment period, [the total of additions to and subtractions from individual Parties' assigned amounts shall only be the net greenhouse gas emissions or removals resulting from land-use change and forestry activities undertaken [or acquired] by that Party, reduced by XX per cent] [the total of additions to and subtractions from individual Parties' assigned amounts from net greenhouse gas emissions or removals resulting from land-use change and forestry activities undertaken [or acquired] by that Party shall only be applied over and above the thresholds listed in appendix I to this annex<sup>1</sup>] [the total of additions to and subtractions from individual Parties' assigned amounts from net greenhouse gas emissions or removals resulting from land-use change and forestry activities undertaken [or acquired] by that Party shall only be accountable to the maximum of the values listed in appendix I to this annex].]

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<sup>1</sup> The annex will be further developed according to the option(s) chosen by Parties.

### **G. Article 3.7**

24. [A single pre-commitment period review process should apply to all elements of a Party's inventory, including all anthropogenic emissions and removals associated with land-use change and forestry. The eligibility of a Party to apply the final sentence of Article 3.7 shall be based on a complete, reviewed inventory. [For calculating the initial assigned amount, all greenhouse gas emissions and removals associated with land-use change and forestry, in CO<sub>2</sub> equivalents, shall be taken into account.]

25. For the second sentence of Article 3.7 of the Kyoto Protocol, emissions from land-use change means those net emissions reported in relation to the conversion of forests (deforestation) under the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*.]

or

26. [The meaning of the final sentence of Article 3.7 of the Kyoto Protocol is that Parties for which land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include their aggregate anthropogenic emissions minus removals from land-use change in their greenhouse gas inventory for the base year and subsequent years.

27. Since Parties to which the final sentence of Article 3.7 applies will already have counted the effects of activities related to land-use change agreed under the provisions of Article 3.3 and 3.4 as part of their base year and subsequent inventories, further accounting of these activities under the provisions of Article 3.3 and 3.4 would not apply to these Parties.]

### **H. Reporting**

28. Each Party shall report, as part of its national inventory submission due in 200x, the values it has selected for tree crown cover, tree height and the minimum land area as required in paragraph 1 (a). In so doing, Parties shall demonstrate that such values are consistent with those that have historically been reported to the Food and Agriculture Organization of the United Nations or other international bodies, and if they differ, explain how such values were developed.

29. Each Party shall report, at the end of the first commitment period in accordance with Article 7 of the Kyoto Protocol, on how harvesting or some other forest disturbance that is followed by the re-establishment of a forest, is distinguished from deforestation, during 2008-2012 by comparison with 1990. This information will be subject to review in accordance with Article 8.

30. [Parties shall report in accordance with Article 7 of the Kyoto Protocol, before the start of the first commitment period, which activities under Article 3.4 it elects to include in its accounting for the first commitment period. Such activities shall be limited to those, or a subset of those, listed in paragraph 6 above. Upon election, a Party's decision is fixed for the first commitment period.]

31. Each Party shall report as part of its annual inventory, any model used to estimate or assess carbon stocks or greenhouse gas emissions or removals, and make it available in its

entirety electronically at the time of submission of its inventory for use by all Parties and for verification and review purposes.

32. The treatment of net changes in carbon stock associated with harvested wood products shall be in accordance with decisions of the Conference of the Parties following consideration by the Subsidiary Body for Scientific and Technological Advice on this matter (*to commence at SBSTA 14*).

33. Areas of land subject to land-use, land-use change and forestry activities under Article 3.3 and 3.4 shall be identifiable via national inventory systems under Article 5.1. This information shall be reported as supplementary information under Article 7.1 of the Kyoto Protocol.

34. [Net changes] [Reporting and reviewing of changes] in carbon stocks and greenhouse gas emissions or removals shall be [measured, reported, and accounted for in accordance with the requirements of Articles 5, 7 and 8] [in line with the requirements of Articles 5, 7 and 8 of the Kyoto Protocol] [measured, estimated, monitored and reported, with associated uncertainties, in accordance with the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* as required by Article 5.2, any future elaboration of these guidelines, or parts of them, and any good practice guidance on land-use change and forestry adopted by the Conference of the Parties], [and the requirements for supplementary information agreed to by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol under the provisions of Article 7.1 of the Kyoto Protocol.]

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