



INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



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Overview of the Proposed NGGIP-LULUCF Work Programme

(Submitted by the Co-chairs of TFI)

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Overview of the Proposed NGGIP-LULUCF Work Programme

I. Background

1. This report responds to the decision of IPCC XVII (Nairobi, 4-6 April 2001) to pursue further work on the elaboration of Good Practice Guidance and Uncertainty Management, in order to meet the Inventory reporting requirements of the Parties under the UNFCCC in relation to Land Use Change and Forestry, taking into account the existing request from SBSTA 12 and any further decisions or guidance from meetings of the Conference of the Parties to the UNFCCC.
2. The resumed Sixth Conference of the Parties (Bonn, July 2001) reached a decision on the implementation of the Buenos Aires plan of Action that includes core elements related to land use, land use change and forestry (LULUCF). This is contained in section VII of FCCC/CP/2001/L.7. The Bonn meeting also forwarded a draft decision for further consideration by COP-7 (-/CP.6, document FCCC/CP/2001/L.11/Rev.1¹) on matters relating to LULUCF. Section 3 of the draft decision -/CP.6 would invite IPCC:

3(a) To elaborate methods to estimate, measure, monitor, and report changes in carbon stocks and anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land use, land-use change and forestry activities under Article 3.3 and 3.4, and Articles 6 and 12 of the Kyoto Protocol on the basis of the *Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories*, taking into account the decisions -/CMP.1 and -/CP.6, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session;

3(b) To prepare a report on good practice guidance and uncertainty management relating to the 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, taking into consideration decisions -/CMP.1 and -/CP.6, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session;

3(c) To develop definitions for direct human-induced 'degradation' and 'devegetation' of forests and other vegetation types and methodological options to inventory and report on emissions resulting from these activities, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session; and,

3(d) To develop practicable methodologies to factor out direct human-induced changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks from changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks due to indirect human-induced and natural effects (such as those from carbon dioxide fertilization and nitrogen deposition), and effects due to past practices in forests (pre-reference year), to be submitted to the Conference of the Parties at its tenth session;

Para 2 (a) of L.11/Rev.1 indicates that the work under 3c is in the context of a possible decision by COP-10 on whether degradation and revegetation activities should be included for the first commitment period, and para 2 (c) indicates that the factoring out methodologies developed under 3d would be for accounting in the second commitment period.

¹ Also referred to in this report as L11./Rev.1

3. The decision also contains requests for the Subsidiary Body for Scientific and Technological Advice (in Section 2 of /CP.6):

2(b) To investigate the possible application of biome-specific forest definitions for the second and subsequent commitment periods with a view to the Conference of the Parties at its tenth session recommending a decision for adoption on the use of such biome-specific forest definitions for future commitment periods to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its first session;

2(e) To develop definitions and modalities for including afforestation and reforestation project activities under Article 12 in the first commitment period, taking into account the issues of non-permanence, additionality, leakage, uncertainties and socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems, and being guided by the principles in the preamble to decision /CMP.1 (*land use, land-use change and forestry*) and the terms of reference referred to in paragraph 2 (d) above, with the aim of adopting a decision on these definitions and modalities at the ninth session of the Conference of the Parties, to be forwarded to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its first session;

Para 2 (d) requests the SBSTA to develop at its 15th session term of reference for the work to be conducted under 2(e) above.

4. IPCC XVII requested the TFB to organise the work on Good Practice Guidance and Uncertainty Management for the Land use Change and Forestry Sector, beginning with an Expert Group Meeting to be held in advance of the 18th Session of the Panel. The Panel also decided to consider the report of the Planning Meeting and the proposed work programme at its 18th Session.
5. The Expert Group Planning Meeting (EGPM) was held in Geneva from 6th to 8th August 2001. The participants were inventory and LUCF experts on source specific and cross-cutting issues, nominated by governments. The meeting produced five draft papers as input for the development of the work programme. The TFB, at its 6th session held in Geneva on 9th August (immediately after the EGPM) considered and further elaborated the five draft papers. Annexes 1 to 5 to this report contain the resulting papers. The Co-chair's synthesis of the outcomes of the EGPM and the TFB6, including the proposed work programme, is in section II of this report, and will be presented to IPCC XVIII for consideration and possible endorsement.

II. Co-Chair's synthesis of the outcomes of the Expert Group Planning Meeting and the TFB Session

6. The IPCC Expert Group Planning Meeting (EGPM) and the 6th Session of TFB (TFB6), were held on 6-9 August 2001 in Geneva, in accordance with decision of 17th Session of the Panel. In developing the NGGIP-LULUCF Work Programme, the EGPM and TFB6 also took account of the outcome of the resumed session of COP-6, in particular the relevant parts of Decision 5/CP.6 (FCCC/CP/2001/L.7), and the draft decision /CP.6 on LULUCF, contained in document FCCC/CP/2001/L.11/Rev.1.
7. The issues considered by the EGPM and TFB6 for development of the work programme for NGGIP-LULUCF programme following requests specifically directed to IPCC can be divided into three main tasks:
 - 1) Development of good practice guidance for the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and supplementary methods and good practice guidance arising from the Kyoto Protocol (covers the long standing request to IPCC from SBSTA 12, and the requests in paras 3(a) and 3(b) of the L.11/Rev.1)

- 2) Development of definitions for direct human induced 'degradation' and 'devegetation' and methodological option to inventory and report on emissions from these activities (covers para 3(c) in L.11/Rev.1)
 - 3) Development of practicable methodologies to factor out direct human-induced changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks from changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks due to indirect human-induced and natural effects (such as those from carbon dioxide fertilization and nitrogen deposition), and effects due to past practices in forests (covers 3(d) in the L.11/Rev.1).
8. In addition, the requests to SBSTA in paragraphs 2(b) and 2(e) of L.11/Rev.1 have interlinkages with para 7 1) to 3). Draft option papers on these issues were prepared to enable an integrated approach in the planning of the work on development of methodologies and good practice guidance for the LULUCF sector in view of a possible future request by the SBSTA to the IPCC on the issues covered by 2(b) and 2(e).
 9. The EGPM and TFB6 developed individual work plans and timetables for the requested tasks (paragraphs 3(a) to 3(d) in L.11/Rev.1) and options assessment papers for the potential tasks (paragraphs 2(b) and 2(e) in L.11/Rev.1) for the NGGIP-LULUCF Programme outlined in paras 7 and 8. Co-ordinated expert group meetings and management would ensure the collaboration and information exchange between the tasks. The outcomes of the programme are expected to include a report on Good Practice Guidance and Uncertainty Management for the LULUCF Sector (the report will address 3(a) and 3(b)), a workshop report on definitions for direct human-induced degradation of forests and devegetation and their methodological implications (3(c)), and an IPCC Special Report on the science and appropriate practical methodologies for separating direct-human induced effects from indirect and natural effects, as well as for factoring out the effects of past practices in forests (3(d)). IPCC response to 2(b) and 2(e) issues are contingent upon further developments in SBSTA and eventual decisions at IPCC 19.

III. Proposed work programme

10. The IPCC NGGIP-LULUCF programme is a major new phase in the IPCC inventory work. The timetable for the programme is demanding. The IPCC work on 3(a) to 3(c) is scheduled for consideration and possible adoption at COP-9, and 3(d) is to be submitted to COP-10. An early start in actions taken for planning purposes is therefore important. The proposed work programme is given in Table 1. The terms of reference and work plan for the individual tasks in the programme are presented in the following chapters with indications on decisions that should be taken by the Panel at its 18th and 19th Sessions to enable the finalisation of the work within the set limits.

III-1. TOR, TOC and work plan for the Good Practice Guidance on LULUCF (3(a) and (b))

11. The development of good practice guidance for the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and supplementary methods and good practice guidance arising from the Kyoto Protocol (3(a) and 3(b)) is seen as the main and most urgent part of the programme. The preparation of this issue is also furthest advanced. Terms of Reference (TOR), an Annotated Table of Contents (TOC) and a work plan for the development of good practice guidance for the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and supplementary methods and good practice guidance arising from the Kyoto Protocol are presented in Annex I.
12. Following the approach taken in developing Good Practice Guidance for non-LUCF sectors, LUCF Good Practice Guidance would be developed to assist countries to ensure that inventories are neither over or under estimates as far as can be judged, and uncertainties are reduced as far as practicable, and to facilitate the best use of available resources, taking different national circumstances into account. The IPCC work on good practice guidance for the LULUCF would build on (amongst other things) existing work of the IPCC on inventory guidelines, good practice guidance for the other sectors and the Special

Report on LULUCF and relevant decisions of the COP. The work would be organised into three technical areas:

- 1) Good practice guidance specific to source and sink categories based on the 1996 Revised IPCC Guidelines
- 2) Elaboration of methods and good practice on Kyoto Protocol issues
- 3) Cross-cutting methodological and inventory management issues to ensure consistency, comparability and transparency.

The outcome of the work would be a report on Good Practice Guidance on LULUCF.

13. The TFB recommends that four full-scale expert/authors meetings would be organised to complete the work. The first two meetings would produce the 1st draft report for combined government/expert review. The third meeting would be based on the comments produced in the first stage of government/expert review and to prepare the 2nd draft for the second stage of combined government/expert review. The final report for government consideration would be produced after the 4th expert/authors meeting. The 1st meeting would take place in March 2002 and the last in June 2003. The SBSTA will be informed of progress in the work at its 18th session. The SBSTA may choose to give consideration to collaborative steps, which could be added into the workplan.
14. The governments have nominated experts for the work for the good practice guidance for the LUCF sector in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, based on IPCC invitations in October, 2000 (No. 9089/M/IPCC/INV) and May, 2001 (No. 9121/M/IPCC/LUFC). The proposed work on the supplementary methods and good practice guidance arising from the Kyoto Protocol has a somewhat wider scope (e.g. consideration of projects) and additional nominations by governments and other representative bodies are required. A letter to invite these additional nominations is scheduled immediately after the 18th Session of Panel. The selection of CLAs, LAs and REs for the work would be undertaken by TFB and experts invited by the Co-chairs in December 2001, and the Panel would be informed of the progress at its 19th Session.
15. A decision by the Panel at the 18th Session to endorse² the work in accordance with the TOR, TOC and work plan presented in Annex I would enable the early start of the work.

III-2. Draft scoping paper on Degradation and Devegetation (3(c))

16. The work on 3(c) responds to the concerns that the selection of eligible activities under Article 3.4 of the Kyoto Protocol could give rise to unbalanced accounting unless activities such as forest degradation and devegetation are also addressed. The task has clear links to the development of good practice guidance for the LULUCF and should consider the feasibility of developing good practices on estimating and reporting degradation and devegetation. The preliminary results of the work on 3(a) and 3 (b) should be taken into account in the work on 3 (c). The task on 3(c) is clearly smaller than the task on 3(a) and 3(b) and could be addressed at a workshop (to be held in conjunction with an expert meeting on 3(a) and 3(b)). Relevant work by FAO would be taken into account (see para 26 below). The workshop report would be reviewed and presented to the SBSTA 18 for further guidance. A final report would be forwarded to COP-9 for consideration and possible adoption. The draft scoping paper on 3(c) is in Annex 2.
17. The expertise needed for the work on 3(c) is essentially the same as for 3 (a) and (b) in L.11/Rev.1. Nominations for experts/authors to participate in the work could be made after the COP-7 as discussed at TFB6 or, given the request in the draft decision L.11/Rev.1, also made immediately after IPCC 18.

² Provisional for issues pending on the adoption of the draft decision in L11/Rev. 1 at COP-7.

18. The scoping paper on 3(c) could be finalised at the TFB session in December 2001. Information on progress would be presented at the 19th Session of Panel.

III-3. Draft scoping paper on Factoring out Human-Induced Changes (3(d))

19. Though techniques such as comparison plots and ecosystem models are identified, the IPCC Special Report on Land Use, Land-Use Change, and Forestry concluded that for activities that involve land-use changes it may be difficult, if not impossible, to distinguish with present scientific tools the portion of observed carbon stock changes that is directly human-induced from that portion that is caused by indirect and natural factors. The scope of work on 3(d) is to develop practicable methodologies to factor out direct human-induced changes in carbon stocks and greenhouse gas emissions and removals by sinks from those of indirect human-induced and natural effects, as well as effects due to past practices in forests. The task 3(d) is very challenging and scientific knowledge may still be scarce. The longer timeframe for the work, to be submitted to COP-10, may therefore be warranted. The draft scoping paper on 3(d) is in Annex 3.
20. The foreseen outcome of the work on 3(d) is a special report.
21. The scope of work on 3(d) is wider than conventional inventory work and collaboration with scientists that participated in the preparation of the IPCC SRLULUCF is important. A request for nominations for additional experts would be needed. This could coincide with the request for nominations on additional experts for 3 (c) after COP-7 as discussed at TFB6 or, also made immediately after IPCC 18. The longer time frame for the completion of this task, given in the request in the draft decision L.11/Rev.1, should be noted.
22. The scoping paper and the scientific content of the special report (SR) on 3(d) could be finalised at the TFB session in December 2001. At this session, experts invited by the Co-chairs could also help to select experts/authors for 3(a) and 3(b). Information on progress would be presented at the 19th Session of Panel.

III-4. Draft options assessment papers on Biome-Specific Forest Definitions (2(b)) and Issues related to Afforestation and Reforestation Projects under Article 12 of the Kyoto Protocol (2(e))

23. The EGPM and the TFB addressed also the issues in 2(b) and 2(e) in the draft decision L.11/Rev.1. The scope of work on 2(b) deals with the application of biome-specific forest definitions for the second and subsequent commitment periods. The scope of work on 2(e) is to develop definitions and modalities for including afforestation and reforestation project activities under Article 12 in the first commitment period, taking into account issues of non-permanence, additionality, leakage, uncertainties and socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems. Draft options papers on how the IPCC could contribute to the issues are in the Annex 4 and 5, respectively. The distinction between the options 2 and 3 outlined under Alternative Ways Forward in Annex 5 is that 2 deals only with estimating, measuring, monitoring and reporting carbon stock changes and greenhouse gas emission emissions by sources and removals by sinks within the area directly affected by the project. This could be accomplished using existing inventory methods. The scope of 3 would be wider because it would deal also with baselines, additionality etc, which demand wider economic and socio-economic expertise and go well beyond conventional inventory approaches.
24. There is no request from SBSTA to the IPCC to deal with these issues but they have certain interlinkages with subject areas where requests have been made. If COP-7 results in invitations to the IPCC also on these issues, the future actions could be decided at the 19th Session of the IPCC.

IV. Integration and management of the NGGIP-LULUCF programme

25. The integration and management of the NGGIP LULUCF programme needs special consideration due to the complex and sensitive nature of the work and experience with the development of the existing Good Practice guidance suggests that it may require greater focus on workshop papers than in other areas of IPCC work. The programme includes also tasks that go beyond the conventional inventory work and collaboration with other WGs may be needed. The collaboration between inventory experts and experts who participated in the preparation of the IPCC SRLULUCF is important. The activities for planning purposes on the issues related to 3(a) and (b) can be initiated now by NGGIP TSU under the guidance of the TFB. The finalisation of TOR and work programme for the whole programme would await decisions on the pending issues at COP-7. If the draft decision (-/CP.6, document FCCC/CP/2001/L.11/Rev.1) is adopted at COP-7, the draft scoping papers and the scientific content of the SR on 3(d) could be finalised and a work programme for the whole programme, including a proposal on the management of the programme, could be developed at the seventh session of the TFB (TFB7) in December 2001. The IPCC Bureau could consider the outcome of the TFB7 at its December meeting or through e-mail communications. The information on progress would be presented to the Panel at its 19th Session in spring 2002.
26. The Food and Agriculture Organisation (FAO), in cooperation with the International Research Centre on Tropical Forestry (CIFOR), is organizing an Expert Consultation Meeting on Forest-related Definitions (cover definitions related to 3(c) and 2(b) in L.11/Rev.1) at the FAO headquarters building in Rome in January 2002. The IPCC will join in this effort for planning purposes, and so that the workshop can contribute to the NGGIP-LULUCF programme also.

VI. Budgetary Requirements

27. The estimated budgetary requirements for the work programme on the NGGIP-LULUCF programme are presented in Table 2.

Table 1. Proposed work programme for the NGGIP-LULUCF Programme

Date	Events	LUCF GPG (3a & 3b)	Degradation/ Devegetation (3c)	Factoring out DHI (3d)	Biome-specific definition (2b)	Definition/ Modalities under Art. 12 of KP (2e)
Aug '01	Planning Meeting/TFB6	Developed TOR, TOC and work plan	Drafted Scoping Paper (SP) to develop a Workshop Report	Drafted Scoping Paper (SP) to develop a Special Report	Drafted Options Assessment Paper (OAP)	Drafted Options Assessment Paper (OAP)
23 - 29 Sept '01	IPCC Bureau 23/ IPCC 18	Panel to approve TOR, TOC, and work plan on a provisional basis subject to COP-7 relevant decisions Immediately after IPCC18, IPCC to call for nomination to cover the issues relevant to Articles 3.3, 3.4, 6, & 12 of KP (due early November 2001)	Panel to consider SP	Panel to consider SP.	Panel to consider future actions base on the OAP	Panel to consider future actions based on the OAP
29 Oct - 9 Nov '01	COP-7/SBSTA15	Inform SBSTA of IPCC 18 outcome Formal COP decision and further guidance from COP/SBSTA	Inform SBSTA of IPCC 18 outcome Formal COP decision and further guidance from COP/SBSTA	Inform SBSTA of IPCC 18 outcome Formal COP decision and further guidance from COP/SBSTA	Inform SBSTA of IPCC 18 outcome Formal COP decision and further guidance from COP/SBSTA	Inform SBSTA of IPCC 18 outcome Formal COP decision and further guidance from COP/SBSTA
Nov '01	NGGIP-TSU Activities in consultation with TFB	TSU to compile the names of experts nominated by governments	TSU to revise the SP base on the outcome of IPCC18 and COP-7	TSU to revise the SP base on the outcome of IPCC18 and COP-7	TSU to revise the OAP base on the outcome of IPCC18 and COP-7	TSU to revise the OAP base on the outcome of IPCC18 and COP-7
Dec '01	TFB7/Expert Meeting IPCC Bureau 24	TFB to select/ assign experts/authors team for consideration at IPCC B24 and IPCC 19	TFB to adopt revised SP for consideration at IPCC B24 and IPCC 19	TFB to adopt revised SP for consideration at IPCC B24 and IPCC19	TFB to develop and adopt a plan of action for consideration at IPCC B24 and IPCC19	TFB to develop and adopt a plan of action for consideration at IPCC B24 and IPCC19
23 - 25 Jan '02 (to be confirmed)	FAO/IPCC/CIFOR Expert Meeting on Forest-Related Definitions		To start a process to review, improve, and harmonize the definitions of forest degradation & devegetation		To start a process to review, improve, and harmonize biome-specific forest definitions	
Feb - Mar '02	IPCC 19	TFB to inform IPCC about the writing team and the progress of work	IPCC to endorse SP and provide guidance for future work	IPCC to endorse SP and provide guidance for future work	IPCC to decide on future actions	IPCC to decide on future actions
Mar '02		1 st Authors/ Experts Meeting to start drafting	IPCC to call for nominations; due May	IPCC to call for nominations; due May		

Date	Events	LUCF GPG (3a & 3b)	Degradation/ Devegetation (3c)	Factoring out DHI (3d)	Biome-specific definition (2b)	Definition/ Modalities under Art. 12 of KP (2e)
		of the Good Practice report, as set out in Annex 1 below ³	2001.	2001.		
Apr '02 May '02				1 st Authors/ Experts Meeting (small-scale) to further develop the scientific content of the Special Report		
3 - 14 June '02 (to be confirmed)	SBSTA16					
July '02		2nd Authors/ Experts Meeting to prepare first-order draft of the Good Practice report, as set out in Annex 1 below.	Small-scale workshop to coincide with the 2 nd Authors/ Experts Meeting of 3a and 3b			
Aug '02				2 nd Authors/ Experts Meeting (full-scale) to develop zero-order draft		
Sep '02		1 st governments/ experts review	Governments / expert review			
28 Oct - 8 Nov '02 (to be confirmed)	COP-8/SBSTA17					
Nov '02		TSU to collate and organise comments	TSU to collate and organise comments			
Dec '02				3 rd Authors/ Experts Meeting (full-scale) to develop first-order draft		
Jan. '03		3 rd Authors/ Experts Meeting to resolve issues & develop 2 nd order draft	Small-scale Authors/ Experts Meeting to coincide with the 3 rd Authors/Experts Meeting of 3a and 3b			

³ The drafts would be produced covering consistent basis for representation of land area, the subs-sectors in Chapter 5 of the 96 Guidelines, specific requirements of arising from Protocol reporting requirements consistent with the inventory as a whole, and cross cutting issues set out in Annex 1 under Chapter 5.

Date	Events	LUCF GPG (3a & 3b)	Degradation/ Devegetation (3c)	Factoring out DHI (3d)	Biome-specific definition (2b)	Definition/ Modalities under Art. 12 of KP (2e)
Feb. '03				1 st governments/ experts review		
Mar. '03		2 nd governments/ experts review				
Apr. '03					TSU to collate and organise comments	
May '03		TSU to collate and organise comments				
2 - 13 June '03 (to be confirmed)	SBSTA18	Side event at SBSTA to inform progress	Side event at SBSTA to inform progress (if required subsequent work on methodological options)			
June '03		4 th Authors/ Experts Meeting to resolve issues & prepare final draft	Small-scale workshop to coincide with the 4 th Authors/ Experts Meeting of 3a and 3b			
July '03		TSU to edit final draft		4 th Authors/ Experts Meeting (small scale) to resolve issues and prepare second-order draft		
Aug '03						
Sep '03		Final report for government consideration	Final report for government consideration	2 nd governments/ experts review		
Oct '03						
Nov '03	IPCC 20	IPCC accept/approve the report	IPCC accept/approve the report	TSU to collate and organise comments		
1 - 12 Dec '03 (to be confirmed)	COP-9/SBSTA19	Delivery of the report to COP-9	Final result to be presented at COP-9			
Jan. '04				5 th Authors/ Experts Meeting (small-scale) to resolve issues and prepare final draft		
Feb. '04						

Date	Events	LUCF GPG (3a & 3b)	Degradation/ Devegetation (3c)	Factoring out DHI (3d)	Biome-specific definition (2b)	Definition/ Modalities under Art. 12 of KP (2e)
Mar. '04				Final report for government consideration		
Apr. '04						
May '04	IPCC 21			IPCC/WG to approve accept report		
June '04	SBSTA20			Submission to SBSTA		
July '04						
Aug '04						
Sep '04						
Oct '04						
Nov '04						
Dec '04	COP10/SBSTA21					

Table 2. Estimated budgetary requirements for the work programme on the NGGIP-LULUCF.

Activity	Date	2002	2003	2004
For 3(a) and 3(b); LUCF GPG				
- 1 st Authors/Experts Meeting (full-scale)	Mar. 2002	90,000		
- 2 nd Authors/Experts Meeting (full-scale)	July 2002	90,000		
- 3 rd Authors/Experts Meeting (full-scale)	Jan. 2003		90,000	
- 4 th Authors/Experts Meeting (full-scale)	June 2003		90,000	
For 3(c); Degradation/devegetation				
- Workshop (small-scale); to coincide with 2 nd Authors/Experts Meeting for Section 3(a) and 3(b); budget required expected to be smaller than for a normal small-scale meeting	July 2002	20,000		
- Authors/Experts Meeting (small-scale) to coincide with the 3 rd Authors/Experts Meeting for Section 3(a) and 3(b); budget required expected to be smaller than for a normal small-scale meeting	Jan. 2003		20,000	
- Workshop (small-scale); to coincide with 4 th Authors/Experts Meeting for Section 3(a) and 3(b); budget required expected to be smaller than for a normal small-scale meeting	June 2003		20,000	
For 3(d); Factoring out DHI				
- 1 st Authors/Experts Meeting (small-scale)	May 2002	50,000		
- 2 nd Authors/Experts Meeting (full-scale)	Aug. 2002	90,000		
- 3 rd Authors/Experts Meeting (full-scale)	Dec. 2002	90,000		
- 4 th Authors/Experts Meeting (small-scale)	July 2003		50,000	
- 5 th Authors/Experts Meeting (small-scale)	Jan. 2004			50,000
For 2(b); Biome-specific definition				
- IPCC 19 to decide on future actions				
For 2(e); Article 12 of KP				
- IPCC 19 to decide on future actions				
TOTAL		430,000	270,000	50,000

TERMS OF REFERENCE of IPCC project on Land-Use Land-Use Change and Forestry (LULUCF)

In response to the decision of IPCC XVII and related decisions and requests from the UNFCCC, the IPCC will develop Good Practice Guidance (GPG) to ensure that country inventories on LULUCF are neither over- nor underestimated as far as can be judged, and uncertainties are reduced as far as practicable and facilitate the best use of available resources, taking different national circumstances into account. The GPG on LULUCF should ensure that countries use the same criteria as listed in the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories⁴.

IPCC will base its work, inter alia, on:

The Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
The IPCC 2000 Report on Good Practice Guidance and Uncertainty Management
Relevant decisions of the COP
IPCC Special Report on Land Use, Land-Use Change, and Forestry.

In preparing this Terms of Reference, the IPCC has further been guided by the draft decision (L11/Rev 1), paragraphs 3(a) and 3(b). Consistent with this draft decision, a workplan has been developed that provides for completion of this work by COP-9.

The work required has been organised into three technical areas which are briefly summarised below :

- Source-specific good practice guidance on the 1996 IPCC Guidelines for the requirements of the UNFCCC : This work is to be undertaken in response to the request of IPCC XVII and several requests from SBSTA, dating back to SBSTA 8. The proposed work is outlined in Chapter 3 of the attached TOC. This would be consistent with the 1996 Guidelines.
- Elaboration of Methods and Good Practice on Kyoto Protocol Issues : This section has been considered in response to the draft decision FCCC/CP/2001/L.11/Rev1, paragraphs 3(a) and 3(b), and the decision of the IPCC XVII. The approach is outlined in Chapter 4 of the TOC. For eligible land use, land use change and forestry activities under Articles 3.3 and 3.4 of the Kyoto Protocol and for eligible LULUCF project activities under Articles 6 and 12 of the Kyoto Protocol, the IPCC will elaborate (ie identify and address additional or supplementary features) methods and develop good practice guidance, to estimate, measure, monitor and report changes in carbon stocks and anthropogenic greenhouse gas emissions by sources and removals by sinks required to supplement National Greenhouse Gas Inventory practices for eligible activities.
- Underlying Issues of Good Practice: This section responds to the decision of IPCC XVII, and the previous requests of SBSTA. It addresses two key issues. First, an approach to ensure a consistent representation of land areas for use across the source and sink categories, as outlined in Chapter 2 of the TOC. Second, a number of additional cross-cutting issues – including identification of key sources and sink categories, uncertainty analysis, recalculation, QA/QC, and verification are addressed in Chapter 5 of the TOC.

⁴ These criteria are: transparency, completeness, consistency, comparability, accuracy and verifiability. These should be applied to inventories of changes in carbon stocks and anthropogenic GHG emissions from sources and removals by sinks.

Good Practice Guidance for LULUCF⁵ Annotated Table of Contents

Chapter 1: Introduction

The report responds to the decision of IPCC XVII (6th April 2001, ITEM (5)B). It provides good practice guidance on how to prepare unbiased LULUCF inventory estimates and reduce uncertainties as far as practicable, while making the best use of resources available. Good practice in LULUCF needs to address characteristic features of the sector, including spatial disaggregation and temporal dynamics, and the requirement to consider carbon stocks and anthropogenic greenhouse gas emissions and removals.

(The structure of the report should be summarised in this chapter.)

Chapter 2: Basis for Consistent Representation of Land Areas

The LULUCF inventory needs a consistent representation of land areas for use across source and sink categories considered. Methodological options include the full spectrum from conventional inventory approaches to remote sensing, GIS based systems and statistical approaches.

- 2.1. Decision tree for selecting among the methods available, taking account of national circumstances including geographic and ecological circumstances and inventory history. Representative data collection within the chosen framework including treatment of missing data reconstructed as described in 5.3.
- 2.2. Good practice in the derivation and application of land use change matrices, including issues such as temporary land cover and rotational land use changes. Good practice in the combination data collected at various time scales such as periodic survey and annual census data and remote sensing data.
- 2.3. Consistency in disaggregation of spatial and temporal subsets of land areas for reporting under the Convention or the Kyoto Protocol.

Chapter 3: LUCF Sector Good Practice Guidance

- 3.1. Overview: Provision of good practice guidance for Chapter 5 of the Revised 1996 IPCC Guidelines, sections 5A-5E. Guidance is consistent with the 1996 Guidelines, while clarifying certain issues such as attribution of soil carbon, providing guidance on how to manage interlinkages among the subsectors 5A-5E and with other chapters of the 1996 Guidelines, especially Chapter 4 "Agriculture", whilst avoiding double counting, taking into consideration the experience gained in using the common reporting format tables of the UNFCCC.

This chapter addresses methodological issues and reporting specifically linked to the Revised 1996 IPCC Guidelines. For the sections listed below, good practice should be prepared following the format of the IPCC 2000 Good Practice Report (including discussion of methodological approaches and choice among them, factors, parameters and activity data; completeness and avoiding double counting; development of consistent time series; uncertainty assessment; reporting and documentation; and QA/QC)⁶. It should be recognised that there is a need for the good practice to clarify the scope and inter-relationships of particular source and sink categories in the LUCF Chapter of the 1996 Guidelines.

- 3.2. Changes in Forest and Other Woody Biomass Stocks (IPCC 5A):
 - 3.2.1. Changes in Biomass⁷
 - 3.2.2. Changes in Soil Carbon
 - 3.2.3. Harvested Wood⁸

⁵ In the 1996 Guidelines, the sector is called LUCF (Land-Use Change and Forestry). LUCF and LULUCF are both used. This document adopts LULUCF except where there is a clear reference to the Revised 1996 IPCC Guidelines, without implying any policy judgement thereby.

⁶ See the last two sentences in the footnote in the Draft Scoping Paper to Address Request 3(d) outlined in FCCC/CP/2001/L.11/Rev.1.

⁷ This section should cover issues related to forests, plantations, and other land-use (i.e. urban, village forests), all relevant carbon pools (i.e., above- and below-ground biomass, litter, and dead wood), CO₂ and non-CO₂ emissions related to fires, other disturbances, and forest management practices, and provision of any data needed for subsequent consideration under Chapter 4 of this report.

⁸ Treatment of harvested wood products will be consistent with decisions of the COP.

- 3.3 Forest and Grassland Conversion (IPCC - 5B)
 - 3.3.1 Changes in Biomass⁹
 - 3.3.2 Changes in Soil Carbon
- 3.4 Abandonment of Managed Lands (IPCC - 5C): Clarification of the scope and description of this sub-category.
 - 3.4.1 Changes in Biomass
 - 3.4.2 Changes in Soil Carbon
- 3.5 CO₂ Emissions and Uptake by Soils (IPCC - 5D)¹⁰
 - 3.5.1 Mineral soils
 - 3.5.2 Organic soils
 - 3.5.3 Liming
- 3.6 Others (IPCC - 5E)
 - 3.6.1 Other non-CO₂ GHG fluxes
 - 3.6.2 GHG fluxes from flooding and wetland drainage¹¹

Chapter 4: Supplementary methods and Good Practice Guidance arising from the Kyoto Protocol

- 4.1 General Overview: This chapter describes the supplementary methods and good practice guidance specifically linked to the Kyoto Protocol and requiring guidance beyond the Revised 1996 IPCC Guidelines. The chapter gives full consideration to the requirements of Article 3.3, as well as choices made related to Articles 3.4, 6 and 12.
 - 4.1.1 Identification and stratification of relevant land areas
 - 4.1.2 *Estimation of C stock changes and non-CO₂ GHG emissions*
 - 4.1.3 *Specific Requirements of the accounting system required*
- 4.2 Methodological issues related to estimation, measurement, monitoring and reporting of changes in carbon stocks and anthropogenic GHG emissions by sources and removals by sinks resulting from LULUCF activities.
 - 4.2.1 Afforestation and reforestation
 - 4.2.2 Deforestation
 - 4.2.3 Forest management
 - 4.2.4 Revegetation
 - 4.2.5 Cropland management
 - 4.2.6 Grazing land management
 - 4.2.7 Article 6: Additional/supplementary methodological issues related to estimation, measurement, monitoring and reporting of changes in carbon stocks and anthropogenic GHG emissions by sources and removals by sinks resulting from LULUCF activities under Art. 6.
 - 4.2.8 Article 12: Methodological issues related to estimation, measurement, monitoring and reporting of changes in carbon stocks and anthropogenic GHG emissions by sources and removals by sinks resulting from LULUCF afforestation and reforestation activities under Art. 12.

Chapter 5: Cross-Cutting Issues

- 5.1. Identification of key source and sink categories required for reporting and resource prioritisation.
- 5.2 Uncertainty analysis in the framework of the overall approach chosen.

⁹ This section should cover all relevant carbon pools, shifting cultivation, and CO₂ and non-CO₂ emissions, and provide any relevant data for subsequent consideration under Chapter 4 of this report

¹⁰ This section needs to reconsider all land use and land use transitions not covered elsewhere (i.e., sections 5A to 5C), linkages to Chapter 4 of the 1996 Guidelines, treatment of above-ground carbon stocks (if non-negligible) and linkage to other sectors, clarification of scope and definition of sub-categories, and utility of separating mineral and organic soils.

¹¹ May be treated here or under other sections (i.e. 3.2 or 3.5)

- 5.3 Recalculations and reconstruction of missing data using proxy variables for integration into general framework identified under section 2.
- 5.4 QA/QC including procedures for data collection and archiving taking into account the need for transparency and review.
- 5.5 Verification Comparison with independent data sources and techniques specific to LULUCF Linkage to international scientific programmes and data sets.

**Draft scoping paper to address request outlined in L.11/Rev.1
COP decision 3(c) on 'degradation' and 'devegetation'**

Scope

Initially, to develop a short workshop report comprising definitions for direct human induced degradation of forests and devegetation of other vegetation types, and methodological options to inventory and report on emissions resulting from these activities.

The purpose of this workshop report is to respond to the request by Parties to address some concerns that selection of eligible activities under article 3.4 could give rise to an unbalanced accounting if activities such as forest degradation and devegetation are not included. The paper should analyse the implications of different options to include the accounting of these activities under the provisions of article 3.4, including its relation to forest management and revegetation.

Elaboration of the definitions, methodologies for inventorying and reporting requirements should have as a basis:

- The Special Report on LULUCF
- Any available draft of the Good Practice Guidance and Uncertainty Management to meet the inventory reporting requirements of the parties under the UN Framework Convention on Climate Change related to Land-Use Change and Forestry and the Kyoto Protocol

Workplan

The SBSTA 18 should be informed on the results of the workshop, seeking further guidance on the work needed by the IPCC in developing the methodological options to inventory and report on emissions resulting from degradation and devegetation. Contingent upon the subsequent work to be carried out, the final report should be presented for its consideration at COP-9. Given the linkages of this paper to the workplan of the Good Practice LULUCF report, the drafting of the present paper can start at a later stage, after the approval of the terms of reference/scoping paper of this report at IPCC XIX.

One 1-2 days expert meeting/workshop will be allocated to draft the paper back to back with an expert meeting of the Good Practice LULUCF report early in 2003. The meeting will comprise 10-20 experts. A zero-order draft paper prepared by e.g. three lead authors could serve as background for the expert meeting/workshop. These authors and the participants to the expert meeting/workshop could be selected from those ones involved in the drafting of the Good Practice LULUCF report.

Timeline¹²

- Draft scoping paper presented for its consideration at IPCC XVIII
- Terms of reference/scoping paper discussed and approved at TFB 7
- Approval of terms of reference/scoping paper at IPCC XIX
- A workshop in 2002
- Review of the workshop report [September 2002]
- The workshop report to be presented at UNFCCC SBSTA 18 in June 2003
- If required, subsequent work on methodological options.
- Final result to be presented to COP-9.

Note added by TSU: This work would be coordinated with the FAO/IPCC/CIFOR workshop on forest definitions to be held in Jan 2002

¹² May be adjusted pending on the workplan for Good Practice on LULUCF

**Draft Scoping Paper to Address Request Outlined in FCCC/CP/2001/L.11/Rev.1 Decision CP.6 3d
(Direct v. indirect human induced changes ...)**

Scope of work

Elaboration of the list of indirect effects, including both positive and negative effects on carbon sequestration

Practicable methods that might be used to separate direct from indirect and natural effects, including those that combine the indirect and natural effects.

Practicable methods for separating out the effects of past practices in forests pre-reference year

Feasibility of applying these methods given the range of potential LULUCF management actions

Application at various scales

Costs of implementing these approaches

Implications of separating direct from indirect and natural including

- Interactions between direct and indirect factors
- Practicability of separation across multiple time periods
- Relationship to inventory accounting

Links to good practice guidance

Latest evidence of the scale of potential indirect effects and the effects of past practices (a review of literature)

Output

Given the need to incorporate the latest scientific information as well as drawing on existing IPCC reports, we recommend that this issue be addressed through a special report

Expertise required to address request

Governments and other bodies should be requested to nominate authors in line with the scope of the Report, including those working outside the field of inventory development, such as those involved in the IPCC Assessment Reports and the Special Report on Land Use, Land-use Change and Forestry.

Interaction with SBSTA

Process for dialogue with SBSTA to resolve questions and to refine request including the consistency between request 3d and the principle outlined in -/CMP.1 1.h and specifically (i) the implication of a pre-industrial CO₂ baseline.

Timeline

- Draft scoping paper considered by TFB 6 and IPCC XVIII (Sept 2001)
- Input from SBSTA on draft scope of work (Nov. 2001)
- Planning meeting December / January to develop final scoping paper
- Final scoping paper considered by IPCC XIX (February / March 2002)
- Request for authors (sent March)
- Initial technical workshop to further develop the scientific content of the Special Report (May/June 2002)
- Feedback from SBSTA (June 2002)¹³
- Series of technical workshops
- Production of Expert, Expert and Government review drafts
- Preparation of Special Report for consideration at COP-10
-

¹³ A decision could be made after this meeting by IPCC whether it is feasible to complete the report by COP-9 in late 2003. In addition, an initial assessment of the elements that may enable factoring out direct human-induced changes in carbon stocks and GHG emissions and removals from those caused by indirect human-induced and natural effects, including the potential relationship to Good Practice Guidance, will be provided to the SBSTA. This assessment will also be forwarded to the LULUCF Good Practice Guidance Working Group for consideration, taking into account relevant advice from SBSTA.

OPTIONS ASSESSMENT PAPER

Development of Biome-specific Forest Definitions

Background

Paragraph 2(b) of FCCC/CP/2001/L.11/Rev.1 calls for the investigation of “the possible application of biome-specific forest definitions for the second and subsequent commitment periods”. The use of biome-specific definitions¹⁴ was considered in the IPCC Special Report on LULUCF as a means to address differences in the ecological forest conditions and the inventory data describing these forests. Biome-specific forest definitions, in combination with the definitions of activities covered under Articles 3.3. and 3.4 of the Kyoto Protocol, may be an alternative to a single definition of forests that is applied globally.

Scope

Biome-specific forest definitions were considered in the IPCC Special Report to account for carbon stock changes that may not be captured by a single definition of forests with respect to afforestation, reforestation and deforestation (ARD).

The work would analyse the implications of different options for the choice of definition for forest with regard to ARD activities, including its relation to the definitions of aggradation and degradation, revegetation and devegetation, and its relation to the estimation of carbon stock changes resulting from activities covered under Article 3.4 (work according to 3(c) in L.11/Rev.1).

This could include the following steps:

- To outline criteria for the choice of biome-specific definitions (ecological, existing inventories, other national circumstances) and criteria for selection of biomes.
- To outline available options for the biome-specific definitions.
- To compile a draft list of possible biome types and their possible definitions of forest cover and tree height.
- To elaborate methodologies for inventorying and reporting requirements for each option.
- To assess implications of each option (comprehensiveness, symmetry of stock change counting, relationship to Article 3.4), including implications for Article 12.

This work would build on

- the IPCC Special Report on LULUCF,
- any available draft of the Good Practice Guidance and Uncertainty Management related to LULUCF, and
- draft decision FCCC/CP/2001/L.11/Rev.1 and subsequent COP decisions,

and would be carried out in close collaboration with other IPCC expert groups, and with other international organisations, in particular the Food and Agriculture Organization (FAO), dealing with forest definitions.

Process

As a minimum, there would be consideration of the above issues by two groups of experts. Group one would address the implications of current definitions, group two would address possible biome-specific definitions. Experts, with broad geographical representation, should combine expertise in the UNFCCC and Kyoto Protocol, and in existing vegetation inventories and ecological characteristics of biome types. Subject to further guidance from SBSTA, the IPCC could develop a written report (e.g., Special Report) addressing the issues identified under “Scope”.

¹⁴ “Forest is an area of land that has A% cover of woody vegetation with > B metres in height, or would contain at maturity of existing vegetation with continuation of current land use. For each biome, a minimum crown cover and tree height would have to be established to determine what would qualify as a forest. Determination of biome types would have to be carried out systematically through the use of common criteria.” (IPCC SR p. 142, Table 3-4)

OPTION ASSESSMENT PAPER
on issues related to afforestation and reforestation project activities
under Art. 12 of Kyoto Protocol (§2(e))¹⁵

Scope

According to paragraphs 2(d) and 2(e) of the Draft decision -/CP.6 on land-use, land-use change and forestry, the COP requests the SBSTA:

- (d) To develop at its fifteenth session terms of reference for the work to be conducted under paragraph 2(e) below;
- (e) To develop definitions and modalities for including afforestation and reforestation project activities under Article 12 in the first commitment period, taking into account the issues of non-permanence, additionality, leakage, uncertainties and socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems, and being guided by the terms of reference referred to in paragraph 2(d) above, with the aim of adopting a decision on these definitions and modalities at the ninth session of the Conference of Parties, to be forwarded to the Conference of Parties serving as the meeting of the Parties to the Kyoto Protocol at its first session;

At the moment, there is no request/invitation from the COP or SBSTA to IPCC to address issues arising from paragraph 2(e). However, paragraph 3(a) (and indirectly 3(b)) refers also to Article 12. Moreover, there is scientific and technical expertise within IPCC that may facilitate the consideration of scientific issues related to Art. 12.

Alternative ways forward

If requested, IPCC could contribute to the process as follows:

1. IPCC would wait for a formal invitation of the COP or SBSTA to begin the formal consideration of work. An invitation would be possible at the beginning of the SBSTA consideration (e.g. SBSTA15), or after the completion of the SBSTA consideration (COP-9/SBSTA-19).
2. IPCC could focus on strictly scientific issues related to estimation, measurement, monitoring and reporting of changes in carbon stocks and anthropogenic GHG emissions by sources and removals by sinks resulting from afforestation and reforestation activities under Art. 12. This work would be based, to the extent possible, on the GPG on LULUCF to avoid duplication.
3. Upon request IPCC could also contribute to SBSTA consideration of wider socio-economic and environmental issues related to Art 12, including cooperation with other international organisations such as CBD (Convention on Biodiversity) and CCD (Convention to Combat Desertification), as appropriate.

¹⁵ Refer to document FCCC/CP/2001/L.11/Rev.1