



SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

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Item 5 of the provisional agenda

Reducing emissions from deforestation in developing countries

**Report on a workshop on reducing emissions from deforestation
in developing countries**

Note by the secretariat*

Summary

The secretariat organized a workshop on reducing emissions from deforestation in developing countries, as requested by the Conference of the Parties at its eleventh session. The workshop took place in Rome, Italy, from 30 August to 1 September 2006.

The Subsidiary Body for Scientific and Technological Advice (SBSTA) decided that the workshop should provide an opportunity for Parties to share experiences and consider relevant aspects relating to reducing emissions from deforestation in developing countries. Participants heard technical presentations on the theme of scientific, socio-economic, technical and methodological issues as well as presentations by representatives of Parties and international organizations on the theme of policy approaches and positive incentives. Participants also exchanged views and discussed in detail issues relating to the topics and addressed possible links between the two themes. Several possible next steps were proposed to advance the work of the SBSTA and to allow the body to report at its twenty-seventh session.

The SBSTA may wish to consider the information in this report, in particular the information on possible next steps, and provide additional guidance on further action.

* This document was submitted late due to the timing of the workshop.

CONTENTS

		<i>Paragraphs</i>	<i>Page</i>
I.	INTRODUCTION.....	1–5	3
	A. Mandate.....	1–3	3
	B. Scope of the note.....	4	3
	C. Possible action by the Subsidiary Body for Scientific and Technological Advice	5	4
II.	PROCEEDINGS	6–11	4
III.	SUMMARY OF PRESENTATIONS AND DISCUSSIONS	12–71	5
	A. Theme I: Scientific, socio-economic, technical and methodological issues	12–32	5
	B. Theme II: Policy approaches and positive incentives to reduce emissions from deforestation in developing countries	33–64	10
	C. Theme III: Identification of possible links between relevant scientific, socio-economic, technical and methodological issues and policy approaches and positive incentives	65–71	17
IV.	POSSIBLE NEXT STEPS	72–75	18
	A. Relevant issues.....	72–74	18
	B. Possible process for consideration of relevant issues	75	19

I. Introduction

A. Mandate

1. The Conference of the Parties (COP), at its eleventh session, invited Parties and accredited observers to submit to the secretariat their views on issues relating to reducing emissions from deforestation in developing countries, focusing on relevant scientific, technical and methodological issues, and the exchange of relevant information and experiences, including policy approaches and positive incentives. The COP invited Parties also to submit recommendations on any further process to consider the issues. It requested the Subsidiary Body for Scientific and Technological Advice (SBSTA) to consider the information in the submissions,¹ beginning at its twenty-fourth session. The SBSTA will report at its twenty-seventh session on issues referred to in the submissions, including any recommendations.²

2. Also at its eleventh session, the COP requested the secretariat to organize a workshop on reducing emissions from deforestation in developing countries before the twenty-fifth session of the SBSTA and to prepare a report of the workshop for consideration by the SBSTA at that session.³

3. The SBSTA, at its twenty-fourth session,⁴ decided that the workshop should provide an opportunity for Parties to share experiences and consider relevant aspects relating to reducing emissions from deforestation in developing countries. It also decided on the specific topics to be discussed at the workshop:

- (a) Scientific, socio-economic, technical, and methodological issues, including the role of forests, in particular tropical forests, in the global carbon cycle; definitional issues, including those relating to links between deforestation and degradation; data availability and quality; scale; rates and drivers of deforestation; estimation of changes in carbon stocks and forest cover; and related uncertainties;
- (b) Policy approaches and positive incentives to reduce emissions from deforestation in developing countries, including causes; short- and long-term effectiveness with respect to emission reductions; the displacement of emissions; bilateral and multilateral cooperation; activities of other relevant international bodies; enhancing sustainable forest management; capacity-building; and financial mechanisms and other alternatives – basing discussions on experiences and lessons learned;
- (c) Identification of possible links between relevant scientific, socio-economic, technical and methodological issues and policy approaches and positive incentives that may arise from the consideration of the topics in subparagraphs (a) and (b) above.

B. Scope of the note

4. This document contains a description of the proceedings and a summary of the discussions on the topics referred to in paragraph 3 above during the workshop held in response to the above mandate. In

¹ Submissions from Parties are contained in FCCC/SBSTA/2006/MISC.5 and Add.1.

Submissions from intergovernmental organizations are available at <http://unfccc.int/parties_and_observers/igo/items/3714.php> and submissions from non-governmental organizations are available at <http://unfccc.int/parties_and_observers/ngo/items/3689.php>.

² FCCC/CP/2005/5, paragraphs 81–83.

³ FCCC/CP/2005/5, paragraph 84.

⁴ FCCC/SBSTA/2006/5, paragraph 52 (a) to (c).

preparing the summaries of presentations and main outcomes of discussions, the secretariat made every effort to use the specific terminologies as expressed by the speakers and participants.

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

5. The SBSTA may wish to consider the information in this document, in particular in chapter IV, and provide additional guidance on further actions to complete the mandate given by the COP at its eleventh session.

II. Proceedings

6. The UNFCCC workshop on “Reducing emissions from deforestation in developing countries” took place in the premises of the Food and Agriculture Organization of the United Nations (FAO), Rome, Italy, from 30 August to 1 September 2006. It was hosted by the Ministry for the Environment and Territory, Italy, and FAO, with financial support from the Governments of Australia, Finland, Italy, Netherlands, New Zealand and Sweden and FAO.

7. One hundred and sixty-three representatives of 94 Parties and organizations attended the workshop. Fifty-five representatives from 25 Parties included in Annex I to the Convention (Annex I Parties) and 74 representatives from 42 Parties not included in Annex I to the Convention (non-Annex I Parties) participated in the workshop.

8. Representatives of 13 intergovernmental organizations (IGOs) and 15 non-governmental organizations (NGOs) also attended the workshop as observers. The IGOs present included the International Tropical Timber Organization (ITTO), the Organisation for Economic Co-operation and Development, the World Bank, the International Union of Forest Research Organizations, FAO, the secretariats of the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Forum on Forests, the Global Terrestrial Observing System (GTOS), the Global Environment Facility, the Global Mechanism of the UNCCD, the United Nations Environment Programme (UNEP) World Conservation Monitoring Centre (WCMC) and the European Space Agency. In addition, six resource persons provided technical expertise.

9. At the opening of the workshop Ms. Maria Pia Garavaglia, Deputy Mayor of the City of Rome, and Mr. Gaetano Benedetto, Deputy Head of Cabinet of the Minister of Environment, Land and Sea of the Republic of Italy, welcomed participants to Rome. The Chair of the SBSTA, Mr. Kishan Kumarsingh, who chaired the workshop, addressed the participants and thanked the Government of Italy and FAO for hosting the workshop and expressed appreciation to other governments for their financial support. Mr. Alfonso Pecoraro Scanio, Minister of Environment, Land and Sea of the Republic of Italy, addressed the workshop on the opening day.

10. A representative of the UNFCCC secretariat presented the mandate, goal and scope of the workshop, and the background document prepared to facilitate discussions,⁵ and acknowledged the governments that contributed supplementary funds for the organization of the workshop.

11. General discussions were held after each session on a particular topic or cluster of related topics. Chapter III summarizes the key points of presentations⁶ and discussions. At the end of the workshop the

⁵ The background document, which includes a synthesis of information from national communications and submissions from Parties and accredited observers (see footnote 1), is available at <http://unfccc.int/methods_and_science/lulucf/items/3757.php>.

⁶ The list of presentations and speakers and the full presentations are available at <http://unfccc.int/methods_and_science/lulucf/items/3764.php>. The reader is encouraged to refer to the original presentations for details.

chair provided to the participants a summary of the discussions from themes I and II; the summary of outcomes in paragraphs 23–32 and paragraphs 49–64 is consistent with that summary.

III. Summary of presentations and discussions

A. Theme I: Scientific, socio-economic, technical and methodological issues

1. Summary of presentations

12. A resource person provided an **overview** of the main aspects covered in part I of the background paper relating to scientific, socio-economic, technical and methodological issues.⁷ The presentation highlighted the achievements in monitoring changes in forest area and cover using remote sensing techniques, the availability of tools and methods for estimating and monitoring carbon stock changes in forests, such as field measurements and traditional forest inventories, and methodologies for estimating greenhouse gas (GHG) emissions from deforestation, for example, in Intergovernmental Panel on Climate Change (IPCC) guidelines.⁸

13. The presentation highlighted that progress made in the development of methods and tools in this area is allowing for the measurement of changes in land cover at the national and international scales from space with confidence. In addition, technological developments in remote sensing are under way where technical limitations still exist, for example, with regard to the distinction of secondary from mature forest, identification of degraded or selectively logged forests, or incompleteness in coverage due to clouds. At present, remote sensing cannot measure carbon in biomass or forest carbon stocks directly; these are generally estimated using forest inventory data obtained through sampling. However, up-to-date national forest inventories are scarce in many tropical countries and require considerable resources if undertaken at the national level, in particular for large countries. A reliable measurement of carbon stocks would therefore require cost-effective remote sensing technology in combination with field data. Development in this field for monitoring changes in carbon stocks is ongoing.

14. The presentation also provided information on definitions for forests, deforestation and degradation, including possible implications that different definitions can have on estimates of carbon stock changes, information on drivers of deforestation and degradation, and methods used by developing countries for estimating carbon stock in biomass. Finally, the need for developing standard step-by-step protocols for monitoring deforestation was expressed.

15. The representative from the Woods Hole Research Center in his presentation on the **role of forests, in particular tropical forests, in the global carbon cycle** highlighted the significance of carbon emissions from tropical deforestation (which in recent years has accounted for about 20 per cent of total global emissions), and also presented historical trends of carbon sources and sinks and net fluxes at global and regional levels. The presentation further outlined the ways used to determine carbon emissions from deforestation or changes in land uses based on changes in areas and changes in carbon stocks, possible sources of land-use data, the estimated losses in carbon for the different types of land-use changes (e.g. changes from forests to pastures, plantations) and emphasized the importance of the types of land-use changes and management in determining sources and sinks of carbon. Uncertainties in current estimations mainly result from uncertainties in rates of deforestation and estimated carbon stocks per hectare, as illustrated by the differences in tropical deforestation rates for the main tropical regions in the various data sources. Depending on the data source quoted, annual carbon emissions are estimated at

⁷ See Working paper 1 (a) (2006) at <http://unfccc.int/methods_and_science/lulucf/items/3757.php>.

⁸ *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, Good Practice Guidance for Land Use, Land-Use Change and Forestry, and 2006 IPCC Guidelines for National Greenhouse Gas Inventories* (volume on agriculture, forestry and other land use).

about 0.9 to 2.4 Pg C/year; an immediate halt in deforestation would result in a reduction in global emissions of 1 to 2 Pg C/ year. Finally, the presentation gave an outlook on possible future emission trends for different tropical regions based on current deforestation rates. On this basis a release of 87–130 Pg C from the tropics until 2100 is projected.

16. Methodological issues concerning **estimation of carbon stocks and forest cover and related uncertainties** were addressed in the presentation by the representative of the National Institute for Research in the Amazon (INPA), who presented INPA's estimation approach based on a study undertaken in tropical moist forests. The presentation outlined methodological differences, e.g. with regard to parameters used in the estimation of carbon stocks in primary and secondary forests for the various biomass types to be considered (above-ground, below-ground biomass, etc.), detailing underlying allometric equations, which take into account knowledge on biomass and/or tree species, and the detailed estimation of corresponding uncertainties based on IPCC equations.

17. The presentation by the representative of FAO on **definitional issues** explained the definitions used by FAO for forests, deforestation and forest degradation, and how and which processes in the forest sector contribute to GHG emissions (e.g. conversions to other land uses, unsustainable use of forests). Deforestation is defined by FAO as a conversion of forest to other land uses, whereas forest degradation does not imply a change in the land use, but is generally described as a reduction of the canopy cover and/or stocking and the decreased capacity of the forest to perform its functions. The differences in definitions used by FAO for its forest resources assessments (FRAs) and those used under the Kyoto Protocol were also highlighted. In this regard the presentation highlighted a number of issues requiring consideration in any choice of definitions for use in the context of reducing emissions from deforestation.

18. Another FAO representative provided an overview on **data availability and quality, scale and rates of deforestation**, based on the organization's FRAs. These assessments are based on country reports (229 for FRA 2005, covering 40 data variables) – which according to the presenter are considered to be the best national source of forest information and are supplemented by remote sensing surveys. The latest FRA assessment shows declining trends for both global deforestation rates and net losses in forest area compared to previous FRAs, with an annual deforestation rate of 13 million ha/yr between 1990 and 2005. Data by region show differences in deforestation trends and forest area changes, indicating considerable differences in scale and rates of deforestation between different groups of countries.

19. The presentation also outlined the available sources of data on forest area changes, their quality and use by Annex I and non-Annex I Parties, i.e. national monitoring systems (e.g. forest inventories), independent/unrelated assessments (e.g. remote sensing studies), expert estimates based on assumptions, or other sources. Information on which to base trend estimates of carbon stock changes is scarce in most non-Annex I Parties, mainly due to lack of field measurement data. Comparison of studies in the tropics, e.g. remote sensing surveys of the tropics in FRA 2000 with country data, indicate that in some cases the differences in resulting deforestation scale and rates can be large, whereas for other regions results indicate similar rates. The presentation also highlighted the considerable differences observed in the availability and quality of data, the existence of monitoring systems and capacities for forest monitoring, and the importance of field measurements. It also outlined the future needs for improving data availability and quality through monitoring systems at the national, global and regional levels.

20. In his presentation on **remote sensing and data availability**, the representative of the European Commission's Joint Research Centre focused on measuring deforestation and degradation in the tropics using earth observation techniques. The presentation was based on a recent report prepared by the

GTOS⁹ which provides information on monitoring deforested area, degraded forest area and carbon stock changes. The talk outlined the different levels of monitoring (i.e. from global to fine scale), the suitability of different resolutions for different monitoring purposes (illustrated with various examples of satellite images) and associated costs, and reflected on achievable accuracies as well as ways of assessing accuracy of high resolution imagery. Illustrations of operational monitoring systems at the national level (e.g. Brazilian and Indian surveys and estimated deforestation rates, such as for the Brazilian Amazon) up to the regional/global level by remote sensing surveys were provided, followed by options for future monitoring based on systematic sampling. The presentation demonstrated that, although various methods are available to analyze satellite data for measuring changes in forest areas, the main constraints in implementing national systems for monitoring such changes are cost and access to high resolution data.

21. Information on **drivers of deforestation** was provided by a representative of the University of Louvain, Belgium, who illustrated inter-annual variability of deforestation rates, causes and pathways of tropical deforestation, distinguishing between proximate causes directly impacting on forest cover, such as wood extraction or infrastructural and agricultural expansion, and underlying causes, which are mainly due to demographic, economic, policy and institutional, technological and/or cultural factors. A systematic meta analysis of case studies in more than 150 countries showed the complex interactions of multiple causes of deforestation at different scales (e.g. in the long and short term); however, regional patterns and recurring problems were discernible. In this regard, a cluster of interrelated factors with direct or indirect impacts on forests (intended or unintended) was presented and the pathway of deforestation from historical times until the present was illustrated for the Amazon region.

22. A package of general policy options (including elements such as improved governance, new institutional instruments, etc.) was presented, taking into account the fact that no universal policy could control deforestation and that a balance of factors specific to a region would have to be considered. The difficulties in addressing deforestation include control of forests, discerning the effects of a given policy to a reduction in deforestation, the multiple uses and functions of forests, international leakage, and the close link between forest transition and economic modernization, among others.

2. Main outcomes of discussions

23. The exchange of views by participants following the theme I presentations can be summarized as follows:

Methods and tools to estimate GHG emissions from deforestation

24. Based on the information provided in the presentations, the following was noted:

- Tools, methods and data are available and the science is robust enough to monitor and estimate emissions from deforestation with an acceptable level of certainty. However, the possibilities for using these tools and implementing any system for measuring and monitoring would depend on the availability of appropriate financial, technological and human resources, including capacity-building. In addition, tools and methods available have limitations under different national circumstances, such as scale of forest cover;
- A combination of remote sensing, ground/field surveys and/or forest inventories, as well as the use of IPCC GHG inventory guidelines¹⁰ can be used to estimate GHG emissions resulting from deforestation;

⁹ Reducing GHG emissions from deforestation in developing countries: Considerations for monitoring and measuring (GOF-C-GOLD).

¹⁰ *Good Practice Guidance for Land Use, Land-Use Change and Forestry* and *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (2006 IPCC Guidelines).

- There might be a need to elaborate guidance on how to combine the above methods and tools under a broad range of conditions;
- The process for estimating GHG emissions from deforestation in developing countries will require financial and technical support as well as targeted capacity-building. International collaboration could help facilitate these. Positive incentives for reducing emissions from deforestation in developing countries could also help facilitate this support as well as provide incentives for robust monitoring.

25. Regarding the presented approach to estimate carbon stocks based on allometric equations (see paragraph 16), the relatively low uncertainty was discussed as was the useful contribution that this approach could make in addition to the methods available in IPCC guidelines. At the same time, participants highlighted the requirements of this approach for detailed information on forest types, number of trees and species, and for taking into consideration regional differences. The associated cost implications given the level of accuracy were also discussed.

26. Participants also discussed the developments in remote-sensing technology that may allow direct measurement of above-ground carbon stocks and changes over time, which would facilitate the monitoring of emissions from deforestation in tropical countries.

27. Cost implications of the various methods and tools and their components were addressed, e.g. in relation to scale, resolution and accuracy, taking into account both the establishment or implementation and the maintenance of any monitoring system. Although costs of data have decreased, the bulk of costs is generally associated with implementation of a monitoring system. The advantages of remote sensing in terms of costs as compared to field measurements were mentioned, in particular for countries with large forest cover.

Definitional issues

28. The following points were noted:

- Different definitions for forests and forest-related processes exist, which were developed to address different needs under different processes. One example of this is the set of forest-related definitions under the Kyoto Protocol that apply only in the context of that protocol;
- The use of different definitions has led to differences in estimates of GHG emissions resulting from deforestation;
- In addressing definitional issues in the context of reducing emissions from deforestation in developing countries, consideration may be given to:
 - Specific needs that may arise in the development of any international arrangement on this matter;
 - Using existing forest and forestry related definitions, development of new definitions, or modification of existing definitions to facilitate a more consistent approach to estimating emissions from deforestation and taking into account any related processes resulting in GHG emissions; a range of definitions might be needed, given that the implications of definitions (e.g. for estimation of forest cover or carbon stock change) may differ depending on, for example, country size, type of forest or forest cover;

- Processes leading to losses in carbon stocks, e.g. degradation, and which of these should be addressed in this context;
- Work undertaken by, inter alia, FAO and IPCC, could be used to address challenges resulting from the existence and use of different forest-related definitions in the estimation of GHG emissions from deforestation.

29. Participants also discussed the challenges associated with definitions for processes that do not result in land-use changes per se but also lead to carbon stock losses and GHG emissions, such as forest degradation, logging or temporarily unstocked forests and the implications that coverage or non-coverage of these processes in any definition may have in terms of emission reductions. Other issues discussed in this context included the variety of forest types (e.g. forests in drylands, temperate forests, peat swamp forests, trees outside forests) and related terminology that may need to be taken into account, as well as the need for a common understanding of avoided deforestation. The importance of ensuring consistent land representation over time was mentioned, for example for the establishment of baselines.

General issues¹¹

30. In addition to the above, participants noted the following general issues:

- Consideration of reducing emissions from deforestation should not be seen in isolation from other land use, land-use change and forestry (LULUCF) related issues in the UNFCCC context;
- All GHG emissions resulting from deforestation may need to be addressed and not only those relating to changes in carbon stocks;
- Consideration of which carbon stock changes originate from human-induced activities as compared to those that are due to natural changes has not been resolved;
- Experience in addressing issues, such as leakage, in the context of the negotiations relating to afforestation and reforestation under the clean development mechanism (CDM) of the Kyoto Protocol could be useful in the consideration of any international arrangement to reduce emissions from deforestation.

31. Regarding non-CO₂ GHGs, for example resulting from burning after clearing of lands, participants also discussed the need for considering different types of land, such as peatlands (see also paragraph 29).

32. The need to address socio-economic factors – in addition to methodological issues such as estimation of carbon stock changes – was also expressed, in particular at the local level where local populations are highly dependent on forests and their products. Given the multiplicity of linked causes of deforestation, a focus on the local level may also assist in discerning the relevant underlying drivers. In addition to the causes of deforestation outlined in the presentations, a number of participants highlighted the causes of deforestation in their countries, e.g. poverty, increase in population, economic development and perverse incentives. Participants also mentioned policy implications, given the nature of the causes of deforestation, that would have to be taken into consideration in addressing emissions from deforestation. The need to address permanence was also mentioned.

¹¹ Other scientific, socio-economic, technical and methodological issues discussed under theme I are addressed in this section. Discussions on drivers and causes of deforestation are covered in more detail under theme II due to the close link to policy approaches and positive incentives.

B. Theme II: Policy approaches and positive incentives to reduce emissions from deforestation in developing countries

1. Summary of presentations

33. The session opened with an overview presentation on the background paper on policy approaches and positive incentives.¹² The presentation covered causes of deforestation and incentives and policies that address both direct and underlying causes, taking into consideration the agents of deforestation. It was noted that the causes are heterogeneous across countries. Policies and activities outside the forest sector also contribute to deforestation. Most examples of policies and incentives to reduce deforestation are based on supporting forest conservation and sustainable forest management. Due to a range of factors, the effectiveness of policies and positive incentives cannot be generalized and are usually case specific.

Causes, short- and long-term effectiveness with respect to emission reductions, and the displacement of emissions

34. **Causes of deforestation, short- and long-term effectiveness with respect to emission reduction, and the displacement of emissions** were covered in a presentation on causes of deforestation and forest degradation in the Oceania region by the participant from Tuvalu. The presentation was based on views on outcomes from a regional workshop held in Fiji in 1998. It was noted that there were several common causes driving deforestation in the Oceania region. The presentation also proposed several strategies to address the various causes. The capability of each strategy to address the displacement of emissions, the short- and long-term effectiveness with respect to emission reductions, and the feasibility and effectiveness in reducing CO₂ emissions were assessed.

Bilateral and multilateral cooperation, activities of other relevant international bodies, and capacity-building

35. In considering this cluster of topics, the workshop heard several presentations from representatives of Parties and IGOs, either as donors or beneficiaries of **bilateral or multilateral cooperation and capacity-building**. The first presentation on the topic was given by the representative from Colombia, on behalf of a group of Latin American countries: Colombia, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru and Uruguay. Experts from these countries form the Latin American Discussion Group on LULUCF and Climate Change (GLAD-CC), an informal network of LULUCF experts and negotiators. The presenter spoke of the high rate of deforestation in the GLAD-CC countries and the policy approaches and actions being taken by governments to address the issue. Despite numerous efforts to protect forests, such as developing carbon conservation projects, eco-tourism and environmental services programmes, the forests in the region are still facing numerous development-related threats. The group called for the building of institutional and technical capacities and noted the need for studies considering the economics of various policy approaches. The need for new and additional funds as well as up-front financing for the forest sector was highlighted, such as through overseas development assistance (ODA), new donor programmes, revolving funds and market-based approaches.

36. The participant from the Central African Republic presented the views of the countries in the Congo Basin: Cameroon, Central African Republic, Congo, Democratic Republic of the Congo, Equatorial Guinea and Gabon. She presented the Central African approach against deforestation, including a “convergence plan” (an action plan for forests) adopted by the heads of state of the region and reported on the region’s strong commitment to conservation and sustainable forest management. The

¹² See Working paper 1(b) (2006) at <http://unfccc.int/methods_and_science/lulucf/items/3757.php>.

group proposed the creation of a fund under the UNFCCC for the reduction of emissions from deforestation. The fund would provide two types of grants: a forest management grant based on the forest area managed sustainably in a country and a climate regulation grant weighted to the rate of deforestation.

37. Participants from Annex I Parties also presented their experiences and views on the topics, considering the issues as donors in support of **bilateral cooperation and capacity-building**. One of the participants, from the United Kingdom of Great Britain and Northern Ireland, provided a general overview of the causes of deforestation and highlighted specific examples of causes in a few regions. He called for a multisectoral approach (a variety of policies and actions); clearer and more secure property rights; better governance and regulation; and payment for environmental services.

38. A participant from Germany spoke on the experiences of German Development Cooperation in sustainable forest management (SFM). He provided examples of projects, impacts of these projects and the lessons learned. Thus far, German bilateral cooperation has not focused on reducing emissions from deforestation, but a few pilot projects are being planned. He noted that technical and financial cooperation efforts have not reduced significantly the rate of deforestation. He suggested that a market-based mechanism could make a difference by scaling-up the positive impacts of bilateral cooperation.

39. A participant from the United States of America presented lessons learned on the ground through ongoing United States government forestry programmes. The presentation noted the three “Cs” of addressing deforestation: commercial/market-based approaches, community forest management and conserving forests. He highlighted the actions that worked under each of the Cs and provided examples from the Sustainable Forests Products Global Alliance, community forest management and the Tropical Forest Conservation Act. He noted the importance of an integrated response to address deforestation, such as addressing economic development, poverty reduction, biodiversity and climate change concerns and the need for technical assistance and capacity-building.

40. There were two presentations relating to **multilateral cooperation and capacity-building**. The representative from UNEP WCMC provided an overview of her centre’s activities in cooperation with other United Nations agencies, IGOs, NGOs, governments and industry. The WCMC has engaged in cooperative efforts on the assessment and monitoring of forest resources, development of indicators and data sharing. She raised the question of whether the sharing of monitoring systems could assist Parties in meeting the obligations of several conventions simultaneously. She also prompted participants to think about what sort of support and guidance Parties might require in identifying opportunities for multiple benefits, in developing and implementing monitoring programmes, in sharing data, and in benefiting from lessons learned elsewhere.

41. The representative of the ITTO presented that organization’s experiences and challenges in bringing tropical forests under sustainable management. ITTO cooperates, collaborates and consults with member countries on policy research and studies as well as project activities. The organization has initiated several activities of direct relevance to climate change, for example, capacity-building workshops on afforestation and reforestation activities under the CDM, alternative financing models for SFM and implementation of ITTO guidelines for SFM.

Enhancing sustainable forest management

42. Three participants spoke on their countries’ experiences in implementing and **enhancing sustainable forest management**. The participant from Bolivia presented her country’s experiences on forest management and emissions avoidance. She described how the Noel Kempff Climate Action project is contributing to avoiding deforestation while generating real and measurable carbon offsets. The project has contributed to stopping industrial timber extraction, avoiding slash-and-burn agriculture,

generating substantial benefits to climate, biodiversity and communities, and addressing the issue of leakage.

43. Malaysia's commitment to implementing SFM through proper policy, legislation and forestry practices (e.g. reduced-impact logging, forest rehabilitation, timber certification) was noted in the presentation by the participant from that country. He also highlighted the importance of peat swamp forests as carbon stores. He said that these forest ecosystems are threatened in his region, and that any measure to reduce GHG emissions should take peat swamp forests into consideration.

44. A participant from Japan reported on his country's continuing commitment to support SFM at the domestic, regional and international levels. Japan believes that SFM is an important element in strategies to mitigate global warming, and, as such, SFM is part of the country's ODA philosophy. Japan contributes to technical and financial cooperation through both bilateral and multilateral channels as well as through NGOs and the private sector. It was highlighted that four key elements are necessary for realizing SFM: ownership, partnership, respect for local conditions and sustainability of actions.

Financial mechanisms and other alternatives

45. Representatives of Parties presented their views and experiences on approaches, based either on **financial mechanisms or other alternatives**, to reduce emissions from deforestation in developing countries. They also proposed approaches for an international arrangement for addressing the issue.¹³

46. A representative of Papua New Guinea gave an overview of his country's experiences in multilateral cooperation and presented views on potential policy approaches and positive incentives. He noted that although ODA has been successful in supporting technical capacity and reducing illegal logging, it has contributed little in terms of fair trade, poverty alleviation or reduction in deforestation rates. A flexible basket of positive incentives should be considered, such as ODA (various types of funds); a voluntary national approach (or voluntary Annex for deforestation); a flexible scale approach that takes into account national circumstances; combining bilateral or multilateral efforts and funds to support emissions reductions from deforestation; and optional protocol. He added that technology, methods and markets are currently available, but the challenge of implementation remains. International funding is needed immediately for analysis, capacity-building and pilot market activities, but markets are likely the most sustainable financing solution, he said.

47. The participant from Costa Rica presented his country's experiences with an environmental services payments programme to avoid deforestation and promote forest recovery. Implementation of the programme had to address legal, institutional, financial and political aspects and the need for transparency and accountability. This programme has reduced deforestation (particularly from illegal logging) and land degradation; improved forest cover; enhanced rural development and forest-related industries; and contributed to the fulfilment of environmental goals. However, it was stressed that current financial resources (from internal and external sources) are insufficient to guarantee the sustainability of the programme in the long term and the further expansion of forest cover.

48. A representative from Brazil presented his country's preliminary proposal for an arrangement in the context of the UNFCCC that would provide positive financial incentives for developing countries that voluntarily reduce their GHG emissions from deforestation. The arrangement would not generate future obligations or count towards emissions reduction commitments of Annex I Parties. Positive financial incentives would be given relative to a reference emission rate (calculated based on a pre-defined reference deforestation rate and an agreed carbon content). Parties included in Annex II to the Convention would voluntarily provide funds for this arrangement, taking into account their ODA

¹³ See also the proposed approach by the countries of the Congo Basin, paragraph 36.

commitments. The funds would then be divided among participating developing countries in the same ratio as the emission reductions they have achieved.

2. Main outcomes of discussions

49. The following is a summary of the main outcomes from the exchange of views by participants following the theme II presentations.

General views relating to policy approaches and positive incentives

50. The following general points were noted:

- Reducing emissions from deforestation in developing countries should contribute to meeting the objective of the UNFCCC;
- Actions to reduce emissions from deforestation should contribute to the alleviation of poverty, be based on principles of good governance and be consistent with national development goals;
- Incentives to reduce emissions from deforestation should not weaken efforts to reduce emissions from sources in other sectors;
- Established instruments at the international level should not be prescriptive in terms of which policies and incentives should be applied and implemented at the national level;
- National circumstances, as well as local realities, linked to deforestation vary across countries. Therefore, flexibility is needed. National governments are best placed to define what type of policies and incentives apply best to their national circumstances;
- The development of a possible arrangement to reduce emissions should not disadvantage efforts already in place, but should reward early action;
- The multilevel character of reducing emissions from deforestation was noted:
 - Benefits from the protection of forests operate at different levels, for example, wood provides benefits at the local level, water conservation at the regional level and the reduction of GHG emissions and the conservation of biodiversity at the international level;
 - While efforts to reduce deforestation may be effective at the local level, they also need to add up to a reduction of emissions at the national level;
- Discussions on reducing emissions from deforestation in developing countries should draw upon experiences and lessons learned from negotiations undertaken in the past on similar issues.

51. A participant expressed her country's views on the usage of the term "positive incentives" vis-à-vis incentives such as "subsidies" and "payment for environmental services". The participant expressed concern, referring to the background paper prepared by the secretariat on policy approaches and positive incentives (Working paper No. 1 (b) (2006)), that these terms could contribute to confusion and misunderstanding when considered against similar terms and associated rules of other multilateral organizations/agreements (e.g. World Trade Organization (WTO), CBD). More specifically, the participant expressed concern that incentives do not necessarily have only positive effects, but also

“perverse” effects, and that the use of such terms should take into consideration trade-related issues as well as the context of usage in other multilateral processes (such as WTO, CBD and UNEP).

Causes, short- and long-term effectiveness with respect to emission reductions, and the displacement of emissions

52. The following points were noted:

- A universally applicable policy solution to reduce emissions from deforestation does not exist, given that deforestation results from a complex interaction of underlying and direct causes;
- Causes of deforestation operate at various levels, e.g. at the level of local decision-making to the level of global markets. However, deforestation takes place locally and is linked to national circumstances. For this reason, drivers and causes of deforestation can best be identified by the national governments concerned;
- It is important to consider and better understand socio-economic factors that drive deforestation, bearing in mind that most causes of deforestation lay outside the forest sector;
- There is a need to consider in detail the relationship between direct causes of deforestation and the possibility of leakage.

53. Some general examples that arose during discussions on why deforestation occurs included lack of capacity and willingness to address the issue, lack of education and lack of development opportunities. It was also highlighted that international policies and agreements may have an influence on local policies and, hence, on the causes of deforestation.

54. A participant suggested that discussions on this matter should not focus on the “domestic framework of policy actions” taken to address causes but on the “added value” in addressing the issue within the international process.

55. Several participants underlined the need for addressing deforestation from the demand side of the market. One participant noted that an excessive demand for timber need not necessarily lead to deforestation unless harvesting leads to a change in land use. However, logging practices often pose environmental problems and primary forests are converted into secondary forests. Another participant noted that the pricing policies for energy products often make such products unaffordable to local communities, resulting in excessive harvest of wood for fuel. In considering the demand side of the market, the behaviour of consumers needs to be considered and the market should relate pricing of the product to the carbon emissions associated with the product.

56. It was questioned whether any analysis has been done to consider the link between the effects of leakage and the causes of deforestation. It was also noted that although leakage presents a methodological hurdle, some lessons could be taken from past negotiations on project-based activities under the Kyoto Protocol.

Bilateral and multilateral cooperation, activities of other relevant international bodies, and capacity-building

57. The following points were noted:

- Despite substantial national, bilateral and multilateral support to efforts to reduce forest loss, deforestation continues to be a major problem;

- Efforts relevant to reducing emissions from deforestation are currently in place. Most relate to the promotion of SFM and forest conservation. These include: capacity-building and training; technical support; policy advice and support for policy development; and provision of financial resources;
- Financial and institutional constraints still pose obstacles to the implementation of relevant policies;
- There is a lack of assessment of the effectiveness of policies in reducing emissions from deforestation.

58. It was also noted that results do not only depend on the quantity of resources devoted to addressing deforestation but also on how the resources are allocated and used. A few participants noted that it is important to assess the effectiveness of current policy approaches and incentives and to learn from past experiences. Participants also touched on financing options (e.g. ODA, market or trading mechanisms) to address deforestation and expressed concerns over how such payments are delivered to the various levels, from national to local. One participant noted the growing importance of South–South cooperation.

Enhancing sustainable forest management

59. The following points were noted:

- Forests are multifunctional as they provide a range of goods and services. Hence, it is essential to take these goods and services into account when combating forest loss;
- Forests are important components in sustainable development as they support the livelihoods of local communities. Efforts to reduce emissions from deforestation should not be undertaken at the cost of local livelihoods;
- Promotion of SFM should be an important part of efforts to reduce deforestation rates;
- Compensation and/or rewards could enhance forest conservation and sustainable management.

Financial mechanisms and other alternatives

60. Some possible sources of financing to support activities to reduce emissions from deforestation were mentioned, including: ODA, establishment of funds, multilateral sources, bilateral cooperation, public and private partnerships, payment for environmental services, and market mechanisms.

61. The following points were noted:

- The international process should aim at complementing national policies and efforts to reduce emissions from deforestation as well as add to efforts that are already in place;
- The consideration of approaches to reward or compensate actions needs to be broad and include several possible alternatives;
- There is a need to find additional and innovative financial mechanisms, and funding needs to be certain, long-term and sustainable;
- Several countries have taken decisions to reverse forest loss, including through the establishment of policy frameworks;

- As illustrated by some countries' experiences, it is possible to provide incentives that are effective in reducing emissions from deforestation. However, they should be tailored to national circumstances and respond to national priorities;
- Short-term financial support could be directed towards building of capacity to enable countries to take action in reducing emissions from deforestation, including through the establishment of institutional and technical frameworks;
- Up-front financing is needed to enable developing countries to get started quickly on actions, and could be directed towards building of institutional and technical capacity. However, the implementation of actions on the ground to reduce emissions from deforestation requires that financial resources are continuous and available over the longer term;
- There is a need to cover opportunity costs as well as any transaction costs for incentives to be effective;
- A national institutional structure could provide a basis for the effective reduction of emissions from deforestation. Appropriate institutional frameworks could contribute to the effectiveness of allocation of financial resources;
- Incentives should recognize actions to reduce emissions from deforestation, which could be assessed relative to a reference baseline;
- It is important to ensure that compensation or rewards are received by those actors who undertake actions on the ground. Institutions play a major role in ensuring that actors on the ground are compensated;
- Care needs to be exercised when terms and concepts are selected for discussions on reducing emissions from deforestation, bearing in mind developments in other international agreements. The possible design of options to reward or compensate actions to reduce emissions from deforestation would need to be consistent with Parties' existing obligations in other agreements.

62. Participants discussed how Costa Rica managed its programme of payment for environmental services and ensured its sustainability. The representative from Costa Rica explained that it was not possible to pay the full economic value of all products/services provided by the land and forests, but that the system is very efficient from the political, social and economic perspectives. Costa Rica is looking for other market-related solutions to ensure sustainability of the programme and is following a step-by-step learning process, he said.

63. Some participants expressed the view that the proposal by Brazil¹⁴ offers an opportunity for dialogue and recognizes national circumstances when considering approaches to reward actions for reducing emissions from deforestation in developing countries; some participants added that the displacement of emissions, among other possible issues, would require further discussion in the context of this proposal.

64. A participant spoke on the roles of ODA and regulated markets, expressing the view that although ODA is useful for capacity-building, it may be necessary to formalize market approaches to achieve the objective of reducing emissions from deforestation in a sustainable way. Participants also discussed the links between the issue of deforestation and harvested wood products, noting that the issue

¹⁴ See paragraph 48.

of harvested wood products is currently under consideration by the SBSTA. It was suggested that all options should be kept open at this stage and that attempts should be made at advancing on a set of terms of reference with which to consider the options.

C. Theme III: Identification of possible links between relevant scientific, socio-economic, technical and methodological issues and policy approaches and positive incentives

65. Participants acknowledged that the tools and methodologies for estimating changes in carbon stocks and monitoring deforestation are already available and could be used. However, it was noted that there are still large gaps between countries in terms of their capacity to use available tools and methodologies. A group of participants suggested that consideration be given to the provision of capacity-building, which could include pilot projects that might provide valuable insights and experience.

66. Although markets may provide a sustaining “signal” to stimulate financing to reduce emissions from deforestation, the setting up of a formal market approach could be more demanding as it needs stricter quantification. Several participants mentioned that the market approach should not be the only option considered and that other financing possibilities must be taken into consideration. These participants highlighted some negative implications of market approaches in contributing to deforestation in general. It was highlighted that many local communities whose livelihoods are dependent on the informal sector are marginalized from formal markets. In the consideration of any approach, socio-cultural factors, as well as issues relating to property rights, water security and food security, should be taken into account. One participant mentioned that an approach, such as payment for environmental services, can have negative impacts on communities and the implementation of any programmes should take into account relevant rules agreed under the WTO, and suggested that the only way payment for environmental services would work would be to limit the payments to cover only the extra costs of protection. However, it is uncertain whether payment for environmental services contributes to poverty alleviation, she said.

67. It was acknowledged that a flexible basket of options will have to be considered, be it ODA-based or market-based. Limiting options at this stage might reduce the chances of achieving the objective, participants said. Countries will have to decide on the national policies best suited to their national needs. In any case, financial sustainability is necessary to ensure ecological sustainability. It was mentioned that irrespective of the decisions taken, local communities should be actively involved in the process. Forms of financing need to target rural communities, particularly those involved in community forestry.

68. Some participants highlighted that the capacity to translate an increased understanding of the drivers of deforestation into effective policy approaches was a huge challenge. In this regard, the need to identify specific drivers and pathways of deforestation at the national and/or regional levels using existing methodologies was expressed, to enable countries to assess the different policy approaches and their effectiveness; the need for economic and feasibility analyses in the consideration of any framework was also suggested.

69. The need to address forest degradation and other processes in forests leading to GHG emissions was also expressed, as considering deforestation alone could be too narrow an approach, and, as a result, emissions from such processes would not be accounted for and reduced.

70. As deforestation does not occur in isolation, participants linked it to other relevant issues, such as adaptation, mitigation, biodiversity, harvested wood products and bio-energy. In addition, the link between drivers of deforestation and possible policy approaches should also be considered, such as the role of agriculture in deforestation. Another area requiring further exploration is the cost implications of methodologies, drivers and policies. However, one participant expressed the need to take into account

the timeframe and cautioned that targeting a large number of issues for consideration may result in failure to address key issues. Although many decisions will have to be taken at the national level, it was noted that ideas will be needed on how other relevant bodies/organizations could support the work required.

71. One participant suggested that existing infrastructure and commitments of the UNFCCC process should continue to be explored, in addition to possible new arrangements. Another participant raised the question of whether the current information systems under the UNFCCC will support the policy needs of efforts to reduce emissions from deforestation or whether there are different and additional information needs. It was acknowledged that there is a need to continue exploring options and the implications and impacts of these options. It was also mentioned that a holistic approach would be needed to address deforestation in the context of emissions at the global level.

IV. Possible next steps

A. Relevant issues

72. Consideration should be given to the proposed approaches (including the proposed approaches by Brazil, countries of the Congo Basin, and Papua New Guinea¹⁵) for an international arrangement under the UNFCCC for actions to reduce emissions from deforestation in developing countries, taking into account experiences and lessons learned at the national and international levels, deliberations at the workshop and input from Parties in their submissions. Special attention could be given to the following:

- (a) Identifying how the proposed approaches would best fit different national circumstances, taking into account the successful experiences and lessons learned from ongoing activities to reduce deforestation (such as SFM, payment for environmental services and specific government programmes);
- (b) Identifying the commonalities and differences between the proposed approaches in relation to:
 - How emission reductions from reduced deforestation are to be achieved, including, issues on baselines or reference emission rates and possible leakage or displacement of emissions associated with the proposed approaches;
 - Potential sources of financing;
 - Tools and methodologies required.

73. Consideration should be given to capacity-building needs to facilitate actions to reduce emissions from deforestation under the UNFCCC. The capacity-building could include increasing capacity to monitor and estimate emissions from deforestation; to identify specific drivers and pathways of deforestation and translate these into effective policy approaches; and to determine economic feasibility of the proposed approaches (taking into account opportunity costs for stakeholders, costs for increased capacity-building, costs of surveillance of deforestation and likely sources of additional financing through international cooperation).

74. Attention should be given to the use of appropriate terminologies in discussions on potential approaches to reduce emissions from deforestation under the UNFCCC, taking into account the use of similar or related terminologies as well as existing relevant rules in other international processes and

¹⁵ See paragraphs 48, 36 and 46, respectively.

multilateral agreements. This could reduce potential confusion and difficulties in the consideration of approaches that may be developed under the UNFCCC.

B. Possible process for consideration of relevant issues

75. The SBSTA may wish to consider the following process to address the above issues:
- (a) A second workshop before the twenty-sixth session of the SBSTA that could focus discussions on the topics described in paragraph 72 above;
 - (b) Activities to support and facilitate discussions at the second workshop, if such a workshop would take place, including:
 - (i) Submission of views by Parties on the issues referred to in paragraph 72 above, to be also considered by the SBSTA at its twenty-sixth session;
 - (ii) Expert meeting(s) preceding the workshop to clarify specific aspects relating to the proposed approaches to facilitate their consideration at the workshop;
 - (iii) Preparation of a background paper for the workshop on the commonalities and differences between the proposed approaches in relation to the issues in paragraph 72 (b), taking into account information in the submissions by Parties referred to in subparagraph (b) (i) above;
 - (c) Submission of views by Parties and accredited observers on the issues referred to in paragraph 73 above for consideration by the SBSTA at its twenty-sixth session;
 - (d) Identification of additional activities to be undertaken from the twenty-sixth session to the twenty-seventh session of the SBSTA, at which the SBSTA will report on issues relating to reducing emissions from deforestation in developing countries, including any recommendations, in accordance with the mandate of the COP at its eleventh session.
