



**UNITED  
NATIONS**



**Framework Convention  
on Climate Change**

Distr.  
GENERAL

FCCC/SBSTA/2008/13  
17 February 2009

Original: ENGLISH

**SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE**

**Report of the Subsidiary Body for Scientific and Technological Advice  
on its twenty-ninth session,  
held in Poznan from 1 to 10 December 2008**

CONTENTS

	<i>Paragraphs</i>	<i>Page</i>
I. OPENING OF THE SESSION (Agenda item 1).....	1–2	3
II. ORGANIZATIONAL MATTERS (Agenda item 2).....	3–8	3
A. Adoption of the agenda .....	3–4	3
B. Organization of the work of the session.....	5	4
C. Election of officers other than the Chair .....	6–7	4
D. Election of replacement officers .....	8	5
III. NAIROBI WORK PROGRAMME ON IMPACTS, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE (Agenda item 3).....	9–21	5
IV. DEVELOPMENT AND TRANSFER OF TECHNOLOGIES (Agenda item 4).....	22–30	6
V. REDUCING EMISSIONS FROM DEFORESTATION IN DEVELOPING COUNTRIES: APPROACHES TO STIMULATE ACTION (Agenda item 5).....	31–48	8

VI.	RESEARCH AND SYSTEMATIC OBSERVATION (Agenda item 6).....	49–54	10
VII.	METHODOLOGICAL ISSUES UNDER THE CONVENTION (Agenda item 7).....	55–72	11
	A. Annual report on the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention .....	55–66	11
	B. Greenhouse gas data interface .....	67	13
	C. Emissions from fuel used for international aviation and maritime transport.....	68–72	13
VIII.	METHODOLOGICAL ISSUES UNDER THE KYOTO PROTOCOL (Agenda item 8).....	73–79	14
	A. Implications of the establishment of new hydrochlorofluorocarbon-22 (HCFC-22) facilities seeking to obtain certified emission reductions for the destruction of hydrofluorocarbon-23 (HFC-23).....	73–74	14
	B. Carbon dioxide capture and storage in geological formations as clean development mechanism project activities .....	75–79	14
IX.	FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Agenda item 9).....	80–86	15
X.	MATTERS RELATING TO ARTICLE 2, PARAGRAPH 3, OF THE KYOTO PROTOCOL (Agenda item 10).....	87–92	16
XI.	OTHER MATTERS (Agenda item 11).....	93–99	16
XII.	REPORT ON THE SESSION (Agenda item 12).....	100	17
XIII.	CLOSURE OF THE SESSION .....	101–103	17

#### Annexes

I.	Relevant information and advice emerging from the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change in its first phase .....	18
II.	Methodological guidance by the Subsidiary Body for Scientific and Technological Advice.....	22
III.	Documents before the Subsidiary Body for Scientific and Technological Advice at its twenty-ninth session .....	23

## **I. Opening of the session**

(Agenda item 1)

1. The twenty-ninth session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) was held at the Poznan International Fair, Poznan, Poland, from 1 to 10 December 2008.
2. The Chair of the SBSTA, Ms. Helen Plume (New Zealand), opened the session and welcomed all Parties and observers as well as the members of the Bureau of the SBSTA. She announced that, in the absence of the Rapporteur, she would present the report to the SBSTA at its concluding meeting.

## **II. Organizational matters**

(Agenda item 2)

### **A. Adoption of the agenda**

(Agenda item 2 (a))

3. At its 1<sup>st</sup> meeting, on 1 December, the SBSTA considered a note by the Executive Secretary containing the provisional agenda and annotations (FCCC/SBSTA/2008/7). Statements were made by representatives of six Parties, namely, one speaking on behalf of the Umbrella Group, one on behalf of the Group of 77 and China,<sup>1</sup> one on behalf of the European Community and its member States,<sup>2</sup> one on behalf of the Alliance of Small Island States (AOSIS), one on behalf of the African Group and one on behalf of the least developed countries.
4. At the same meeting, following the proposal of the Chair, the SBSTA adopted the agenda without amendment, as follows:
  1. Opening of the session.
  2. Organizational matters:
    - (a) Adoption of the agenda;
    - (b) Organization of the work of the session;
    - (c) Election of officers other than the Chair;
    - (d) Election of replacement officers.
  3. Nairobi work programme on impacts, vulnerability and adaptation to climate change.
  4. Development and transfer of technologies.
  5. Reducing emissions from deforestation in developing countries: approaches to stimulate action.
  6. Research and systematic observation.

---

<sup>1</sup> During this intervention, it was requested that an agenda item relating to the issue of common metrics to calculate the carbon dioxide equivalence of greenhouse gases be included in the agenda for SBSTA 30.

<sup>2</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

7. Methodological issues under the Convention:
  - (a) Annual report on the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention;
  - (b) Greenhouse gas data interface;
  - (c) Emissions from fuel used for international aviation and maritime transport.
8. Methodological issues under the Kyoto Protocol:
  - (a) Implications of the establishment of new hydrochlorofluorocarbon-22 (HCFC-22) facilities seeking to obtain certified emission reductions for the destruction of hydrofluorocarbon-23 (HFC-23);
  - (b) Carbon dioxide capture and storage in geological formations as clean development mechanism project activities.
9. Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
10. Matters relating to Article 2, paragraph 3, of the Kyoto Protocol.
11. Other matters.
12. Report on the session.

#### **B. Organization of the work of the session**

(Agenda item 2 (b))

5. The SBSTA considered this sub-item at its 1<sup>st</sup> meeting, on 1 December, at which the Chair drew attention to the proposed programme of work posted on the UNFCCC website. On a proposal by the Chair, the SBSTA agreed to proceed on the basis of that programme of work. The secretariat informed the SBSTA of the status of documentation and about other relevant issues.

#### **C. Election of officers other than the Chair**

(Agenda item 2 (c))

6. The SBSTA considered this sub-item at its 1<sup>st</sup> and 4<sup>th</sup> meetings, on 1 and 10 December, respectively. At the 1<sup>st</sup> meeting, the Chair recalled rule 27 of the draft rules of procedure being applied,<sup>3</sup> whereby the SBSTA is expected to elect its Vice-Chair and Rapporteur. Such an election was last held at SBSTA 27 for both the Vice-Chair and the Rapporteur. The Chair informed the SBSTA that consultations on nominations were being undertaken and that she would keep delegates informed of progress. In the conduct of these consultations, Parties were invited to recall decision 36/CP.7 and to give active consideration to the nomination of women for elective posts in the SBSTA.

7. At the 4<sup>th</sup> meeting, the Chair informed the SBSTA that agreement had been reached among the regional groups on the post of Vice-Chair and Rapporteur and proposed the nominees for election. The SBSTA elected Mr. A.H.M. Rezaul Kabir (Bangladesh) as its Vice-Chair and Mr. Purushottam Ghimire (Nepal) as its Rapporteur. The Chair informed the meeting that the Vice Chair and the Rapporteur will serve for an initial term of one year, which may be renewed for another year. She noted that the officers will serve for the thirtieth and thirty-first sessions of the SBSTA, or until their successors are elected. She thanked the current Bureau for its work.

---

<sup>3</sup> FCCC/CP/1996/2.

#### **D. Election of replacement officers**

(Agenda item 2 (d))

8. The elected Vice-Chair and Rapporteur each represent a Party to both the Convention and its Kyoto Protocol. Consequently, no election of replacement officers was necessary.

### **III. Nairobi work programme on impacts, vulnerability and adaptation to climate change**

(Agenda item 3)

#### **1. Proceedings**

9. The SBSTA considered this item at its 1<sup>st</sup> and 4<sup>th</sup> meetings, on 1 and 10 December, respectively. It had before it documents FCCC/SBSTA/2008/9, FCCC/SBSTA/2008/10, FCCC/SBSTA/2008/12, FCCC/SBSTA/2008/INF.5, FCCC/TP/2008/3 and FCCC/TP/2008/4. Statements were made by representatives of seven Parties.

10. In addition, statements were made by representatives of the United Nations Environment Programme, the Secretariat of the Convention on Biological Diversity (SCBD), the World Meteorological Organization, the International Trade Union Confederation on behalf of trade union non-governmental organizations, the Climate Action Network (CAN) on behalf of environmental non-governmental organizations (NGOs), and the International Indigenous Peoples Forum on Climate Change (IIPFCC) on behalf of indigenous peoples organizations (IPOs).<sup>4</sup>

11. At its 1<sup>st</sup> meeting, the SBSTA agreed to consider this item in a contact group co-chaired by Mr. Kishan Kumarsingh (Trinidad and Tobago) and Mr. Donald Lemmen (Canada). At the 4<sup>th</sup> meeting, Mr. Kumarsingh reported on the contact group's consultations.

12. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>5</sup> proposed by the Chair.

#### **2. Conclusions**

13. The SBSTA welcomed the progress made up to its twenty-eighth session in the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change, and took note of the report on the workshop on climate modelling, scenarios and downscaling,<sup>6</sup> two technical papers<sup>7</sup> and the progress report for the period between its twenty-eighth and twenty-ninth sessions.<sup>8</sup>

14. The SBSTA recognized the catalytic role of the Nairobi work programme and expressed its appreciation to the organizations that have undertaken, or have stated their intention to undertake, actions in support of the objective of the Nairobi work programme. It encouraged these organizations to further enhance their efforts towards this end, including through the submission of action pledges. The SBSTA noted that the activities undertaken by these organizations have furthered the understanding of scientific and technical knowledge under the nine areas of work of the Nairobi work programme.

15. The SBSTA highlighted the importance of, and further potential for, partnerships and dialogue between users and providers of information relevant to adaptation in order to advance understanding of measures that can be easily and effectively utilized by decision makers.

---

<sup>4</sup> Owing to time constraints, related statements by non-governmental organizations (NGOs) were heard at the end of the 2<sup>nd</sup> and 4<sup>th</sup> meetings of the SBSTA.

<sup>5</sup> Adopted as document FCCC/SBSTA/2008/L.22.

<sup>6</sup> FCCC/SBSTA/2008/9.

<sup>7</sup> FCCC/TP/2008/3 and FCCC/TP/2008/4.

<sup>8</sup> FCCC/SBSTA/2008/INF.5.

16. The SBSTA noted with appreciation the second forum of focal points of organizations and institutions engaged in the implementation of the Nairobi work programme, convened by the Chair of the SBSTA at the present session.

17. The SBSTA considered the possible need for a group of experts and the role that this group could play in the implementation and further development of the Nairobi work programme. It recognized that the UNFCCC roster of experts and the focal points of the organizations and institutions engaged in the implementation of the Nairobi work programme provide valuable sources of expertise. It invited Parties to expand the roster of experts to ensure that all areas of expertise relevant to the Nairobi work programme on impacts, vulnerability and adaptation to climate change are represented, including those which adequately reflect regional and local issues. The SBSTA agreed to continue its consideration of this matter at its thirty-second session.

18. The SBSTA noted with appreciation the summary of the results of the implementation of the Nairobi work programme for the period up to its twenty-eighth session (hereinafter referred to as the summary report).<sup>9</sup> Having considered the current status, gaps, needs and recommendations detailed in the summary report, the SBSTA noted that gaps and needs remain in all nine areas of work.

19. The SBSTA recalled that the outcomes of activities completed up to its twenty-eighth session may contain useful information for Parties in the consideration of relevant agenda items under the Subsidiary Body for Implementation (SBI).<sup>10</sup> It therefore provided the SBI, for its possible consideration as appropriate, with relevant information and advice emerging from the implementation of the first phase of the Nairobi work programme, as contained in annex I.

20. The SBSTA requested the secretariat, under the guidance of the Chair of the SBSTA, to consider the relevant information contained in the summary report when implementing the mandated activities of the Nairobi work programme during its second phase. It also requested its Chair to facilitate the consideration of this information in the work of the SBSTA under other relevant agenda items, as appropriate, at its future sessions.

21. The SBSTA invited Parties, relevant organizations and other stakeholders, including those participating in the implementation of the Nairobi work programme and other related activities, to consider the relevant information contained in the summary and underlying reports<sup>11</sup> in their activities, and to share the outcomes of these activities with the SBSTA.

## **IV. Development and transfer of technologies**

(Agenda item 4)

### **1. Proceedings**

22. The SBSTA considered this item at its 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 1, 2 and 10 December, respectively. It had before it documents FCCC/SB/2008/INF.5, FCCC/SB/2008/INF.6, FCCC/SB/2008/INF.7 and FCCC/SB/2008/INF.8. Statements were made by representatives of seven Parties, including one speaking on behalf of the Umbrella Group and one on behalf of the European Community and its member States.<sup>12</sup>

---

<sup>9</sup> FCCC/SBSTA/2008/12.

<sup>10</sup> FCCC/SBSTA/2008/6, paragraph 21.

<sup>11</sup> Underlying reports refer to the documents used in the preparation of the summary report, as indicated in that report.

<sup>12</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

23. At its 1<sup>st</sup> meeting, the Chair invited Mr. Jukka Uosukainen (Finland), Chair of the Expert Group on Technology Transfer (EGTT), to report on the group's activities. At the same meeting, the SBSTA agreed to consider the EGTT interim reports mentioned in paragraph 22 above in a joint contact group with the SBI, co-chaired by Mr. Holger Liptow (Germany) and Mr. Carlos Fuller (Belize). At the 4<sup>th</sup> meeting, Mr. Liptow reported on the joint contact group's consultations.
24. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions proposed by the Chair.<sup>13</sup>

## 2. Conclusions

25. The SBSTA welcomed the report of the EGTT for 2008,<sup>14</sup> which includes the findings of its consultations with relevant international organizations on their abilities to support the specific activities listed in decision 3/CP.13, annex I. It noted the oral report by the Chair of the EGTT on the outcomes of the group's meetings held on 28–29 August 2008 in Accra, Ghana, and on 21–23 October 2008 in Dublin, Ireland.
26. The SBSTA also noted the progress made in the work of the EGTT and the interim reports by the Chair of the EGTT on performance indicators,<sup>15</sup> financing options<sup>16</sup> and a long-term strategy<sup>17</sup> to facilitate the development, deployment, diffusion and transfer of technologies under the Convention. It expressed its appreciation to Mr. Jukka Uosukainen (Finland), the Chair of the EGTT, and Mr. Arthur Rolle (Bahamas), the Vice-Chair, for their contributions in leading the EGTT to advance its work programme for 2008–2009.
27. The SBSTA requested the EGTT to take into consideration the deliberations among Parties at this session when preparing its final versions of the reports referred to in paragraph 26 above. It looks forward to receiving the advanced reports, to be made available by 23 March 2009 as input to the fifth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA).
28. The SBSTA reaffirmed that the overall objective of the work on performance indicators is to develop and test a balanced and robust set of performance indicators for each theme of the framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention (the technology transfer framework). The SBSTA recognized the contribution that the work of the EGTT on the development of performance indicators could make to work under the SBI on the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5, of the Convention and to work under the AWG-LCA, in particular to deliberations on the concept of "measurable, reportable and verifiable" in relation to technology as referred to in paragraph 1 (b) (ii) of the Bali Action Plan (decision 1/CP.13).
29. The SBSTA noted that, in response to the request of the Conference of the Parties (COP)<sup>18</sup> at its thirteenth session, the training of trainers workshop on preparing technology transfer projects for financing<sup>19</sup> was organized by the secretariat in collaboration with the United Nations Industrial Development Organization and the Climate Technology Initiative from 29 September to 1 October 2008 in Vienna, Austria. The SBSTA looks forward to the forthcoming regional workshops on preparing technology transfer projects for financing that are to be organized in 2009 for Africa, Asia and the

---

<sup>13</sup> Adopted as document FCCC/SBSTA/2008/L.16.

<sup>14</sup> FCCC/SB/2008/INF.5.

<sup>15</sup> FCCC/SB/2008/INF.6.

<sup>16</sup> FCCC/SB/2008/INF.7.

<sup>17</sup> FCCC/SB/2008/INF.8.

<sup>18</sup> FCCC/CP/2007/6, paragraph 79 (a).

<sup>19</sup> FCCC/SB/2008/INF.5.

Pacific, and Latin America and the Caribbean and encouraged participants to disseminate the lessons learned.

30. The SBSTA noted with appreciation the financial support provided by the Governments of Canada, Finland, France, Germany, Ireland, Italy, Norway, the Netherlands, Romania and Slovakia for the implementation of the work programme of the EGTT for 2008–2009.

## **V. Reducing emissions from deforestation in developing countries: approaches to stimulate action**

(Agenda item 5)

### **1. Proceedings**

31. The SBSTA considered this item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. It had before it document FCCC/SBSTA/2008/11. Statements were made by representatives of 24 Parties, including one speaking on behalf of the European Community and its member States,<sup>20</sup> one on behalf of AOSIS and one on behalf of five Parties of the Congo Basin countries.<sup>21</sup>

32. In addition, statements were made by representatives of the United Nations Forum on Forests, SCBD, the Collaborative Partnership on Forests, the United Nations Permanent Forum on Indigenous Issues, CAN on behalf of ENGOs, IIPFCC on behalf of IPOs and the international youth delegation.<sup>22</sup>

33. At its 2<sup>nd</sup> meeting, the SBSTA agreed to consider this item in a contact group co-chaired by Ms. Lilian Portillo (Paraguay) and Mr. Audun Rosland (Norway). At the 4<sup>th</sup> meeting, Mr. Rosland reported on the contact group's consultations.

34. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>23</sup> proposed by the Chair.

### **2. Conclusions**

35. The SBSTA took note of the report on the workshop on methodological issues relating to reducing emissions from deforestation and forest degradation in developing countries,<sup>24</sup> which was held in Tokyo, Japan, from 25 to 27 June 2008.

36. The SBSTA expressed its appreciation to the Government of Japan for hosting the workshop. It also expressed its appreciation to the Governments of Canada, France, Japan and Spain for providing financial support for the workshop.

37. The SBSTA also took note of the oral report by the Chair on the outcomes of the informal meeting of experts on methodological issues relating to reducing emissions from forest degradation in developing countries, held in Bonn, Germany, from 20 to 21 October 2008.<sup>25</sup>

38. The SBSTA recommended the methodological guidance provided in annex II, without prejudice to any future decision of the COP, on issues relating to reducing emissions from deforestation and forest

---

<sup>20</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>21</sup> Cameroon, Central African Republic, Democratic Republic of the Congo, Equatorial Guinea, Gabon and Congo.

<sup>22</sup> Owing to time constraints, related NGO statements were heard at the end of the 2<sup>nd</sup> and 4<sup>th</sup> meetings of the SBSTA.

<sup>23</sup> Adopted as document FCCC/SBSTA/2008/L.23.

<sup>24</sup> FCCC/SBSTA/2008/11.

<sup>25</sup> <[http://unfccc.int/methods\\_science/redd/items/4579.php](http://unfccc.int/methods_science/redd/items/4579.php)>.



degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries, as reflected in decision 2/CP.13, paragraph 11, which takes into account the methodological issues identified at its twenty-eighth session.<sup>26</sup>

39. The SBSTA decided to continue its programme of work on methodological issues, as contained in decision 2/CP.13, paragraphs 7 (a) and 11, at its thirtieth session, with the aim of completing this work by its thirty-first session and reporting to the COP at its fifteenth session on progress made, including any recommendations on the remaining outstanding methodological issues as contained in annex III to the report on its twenty-eighth session.<sup>27</sup>

40. The SBSTA, recalling its conclusions at its twenty-eighth session,<sup>28</sup> requested its Chair, with the support of the secretariat, to organize an expert meeting,<sup>29</sup> subject to the availability of supplementary funding, before its thirtieth session and to prepare a report on this meeting for consideration at that session. This meeting should focus on methodological issues relating:

- (a) To reference emission levels for deforestation;
- (b) To reference emission levels for forest degradation;
- (c) To the role and contribution of conservation, sustainable management of forests, changes in forest cover and associated carbon stocks and greenhouse gas (GHG) emissions and the enhancement of forest carbon stocks to enhance action on mitigation of climate change and to the consideration of reference levels;
- (d) To the relationship among the reference emission levels and relevant reference levels.

41. The SBSTA requested the secretariat to prepare and make available, subject to the availability of supplementary funding, a technical paper on the cost of implementing methodologies and monitoring systems related to estimates of emissions from deforestation and forest degradation, the assessment of carbon stocks and GHG emissions from changes in forest cover, and the enhancement of forest carbon stocks, for consideration at its thirtieth session.

42. The SBSTA, recalling decision 2/CP.13, paragraphs 1, 2, 3, 4, 5, 9 and 11, recognized the importance of coordination among Parties, relevant multilateral and bilateral organizations and relevant non-governmental organizations (NGOs) when supporting the implementation of activities relating to decision 2/CP.13.

43. The SBSTA requested its Chair to explore ways of facilitating the coordination of the activities referred to in paragraph 42 above, in line with the framework for capacity-building in developing countries as contained in decisions 2/CP.7 and 2/CP.10, and recognizing the existence and importance of activities carried out by developing countries with their own resources.

44. The SBSTA invited Parties to submit to the secretariat, by 15 February 2009, information on their experiences and views, and to provide country-specific information where possible, on needs for technical and institutional capacity-building and cooperation in, inter alia, the implementation of methodologies for estimating and monitoring changes in forest cover and associated carbon stocks and GHG emissions, incremental changes due to sustainable management of forests, reduction of emissions from deforestation and forest degradation, national and subnational monitoring and reporting systems, and methodologies for

---

<sup>26</sup> FCCC/SBSTA/2008/6, annex III.

<sup>27</sup> FCCC/SBSTA/2008/6.

<sup>28</sup> FCCC/SBSTA/2008/6, paragraph 96.

<sup>29</sup> Arrangements for inviting accredited observers in general should be used to invite representatives from IPOs and local communities.

forest inventories, ground-based and remote-sensing approaches.

It requested the secretariat to compile these submissions for consideration at its thirtieth session.

45. The SBSTA invited Parties and accredited observers to submit, if appropriate, to the secretariat, by 15 February 2009, their views on issues relating to indigenous people and local communities for the development and application of methodologies.

46. The SBSTA noted the launch by the secretariat of the Web Platform on the UNFCCC website,<sup>30</sup> in accordance with decision 2/CP.13, paragraph 10. It encouraged Parties, relevant organizations and stakeholders to share information relating to decision 2/CP.13, paragraphs 3, 5, 7, 9 and 11, through the Web Platform.<sup>31</sup>

47. The SBSTA concluded that in addition to work identified in these conclusions, guidance from the AWG-LCA in relation to decision 1/CP.13, paragraph 1 (b) (iii), would facilitate further progress on methodological issues relating to decision 2/CP.13, paragraph 11.

48. The SBSTA requested its Chair to inform the AWG-LCA, at its sixth session, of the results of consultations and progress made during its thirtieth session and at the expert meeting referred to in paragraph 40 above.

## **VI. Research and systematic observation**

(Agenda item 6)

### **1. Proceedings**

49. The SBSTA considered this item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. It had before it documents FCCC/SBSTA/2008/MISC.11 and FCCC/SBSTA/2008/MISC.12. Statements were made by representatives of six Parties, including one speaking on behalf of the European Community and its member States.<sup>32</sup> In addition, statements were made by the Director of the Global Terrestrial Observing System (GTOS) secretariat, by a representative of Thailand<sup>33</sup> speaking on behalf of the Committee on Earth Observation Satellites (CEOS) and by the Chair of the Global Climate Observing System (GCOS) Steering Committee.

50. At its 2<sup>nd</sup> meeting, the SBSTA agreed that the Chair would draft conclusions and present them to the SBSTA at its 4<sup>th</sup> meeting.

51. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>34</sup> proposed by the Chair.

---

<sup>30</sup> <[http://unfccc.int/methods\\_science/redd/items/4531.php](http://unfccc.int/methods_science/redd/items/4531.php)>.

<sup>31</sup> Parties, relevant organizations and stakeholders are invited to submit relevant information to the following e-mail address: <[redd\\_webplatform@unfccc.int](mailto:redwebplatform@unfccc.int)>.

<sup>32</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>33</sup> A representative of the United States of America delivered the statement on behalf of Thailand, the incoming Chair of the Committee on Earth Observation Satellites.

<sup>34</sup> Adopted as document FCCC/SBSTA/2008/L.18.

## 2. Conclusions

52. The SBSTA noted with appreciation the oral statement delivered by the Director of the GTOS secretariat and the statement delivered on behalf of the CEOS. The SBSTA also noted with appreciation a statement delivered by the Chair of the GCOS Steering Committee.

53. The SBSTA welcomed the report prepared by the GTOS secretariat on progress made in assessing the status of the development of standards for each of the essential climate variables in the terrestrial domain, which includes information on the framework for the preparation of guidance materials, standards and reporting guidelines for terrestrial observing systems for climate.<sup>35</sup> The SBSTA also welcomed the updated report submitted by CEOS on progress made by space agencies involved in global observations in implementing actions in response to the GCOS implementation plan.<sup>36</sup>

54. The SBSTA agreed to defer consideration of these reports to its thirtieth session, when it will also consider the comprehensive report on progress with the GCOS implementation plan that the GCOS secretariat is expected to provide to the SBSTA at that session. The SBSTA recalled its invitation to Parties to provide additional information on their national activities with respect to implementing the GCOS implementation plan.<sup>37</sup> It noted that 21 Parties have provided such information<sup>38</sup> and encouraged those that have not yet done so to submit this information by 30 January 2009.

## **VII. Methodological issues under the Convention**

(Agenda item 7)

### **A. Annual report on the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention**

(Agenda item 7 (a))

#### 1. Proceedings

55. The SBSTA considered this sub-item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. It had before it document FCCC/SBSTA/2008/INF.4. A statement was made by a representative of one Party.

56. At its 2<sup>nd</sup> meeting, the SBSTA agreed to consider this item in informal consultations convened by the Chair with the assistance of Ms. Dominique Blain (Canada). At the 4<sup>th</sup> meeting, Ms. Blain reported on these consultations.

57. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>39</sup> proposed by the Chair.

#### 2. Conclusions

58. The SBSTA welcomed the report by the secretariat on activities relating to the technical review of GHG inventories from Parties included in Annex I to the Convention (Annex I Parties).<sup>40</sup>

59. The SBSTA noted that these activities, including individual inventory reviews, the training programme for review experts, the meeting of lead reviewers and the further development by the

---

<sup>35</sup> FCCC/SBSTA/2008/MISC.12.

<sup>36</sup> FCCC/SBSTA/2008/MISC.11.

<sup>37</sup> See FCCC/SBSTA/2005/10, paragraphs 94 and 95, and FCCC/SBSTA/2007/16, paragraph 36.

<sup>38</sup> Information received by Parties has been posted on the UNFCCC website at

<[http://unfccc.int/methods\\_and\\_science/research\\_and\\_systematic\\_observation/items/4499.php](http://unfccc.int/methods_and_science/research_and_systematic_observation/items/4499.php)>.

<sup>39</sup> Adopted as document FCCC/SBSTA/2008/L.20.

<sup>40</sup> FCCC/SBSTA/2008/INF.4.

secretariat of the review tools, continue to contribute to improvements in the effectiveness and efficiency of the review process, the quality of inventories of Annex I Parties and the reliability of information available to the COP.

60. The SBSTA noted with concern that it continues to be difficult for the secretariat to organize reviews with complete expert review teams (ERTs). In order to have complete teams, some experts, both from Parties not included in Annex I to the Convention and from Annex I Parties, were invited by the secretariat to participate in more than one review in 2008.

61. The SBSTA reiterated its request to Parties to nominate experts to the roster of experts, update the roster at least once a year and make efforts to ensure that invited experts are able to participate in reviews. In addition, the SBSTA requested the secretariat to provide, in the annual report on the technical review, information to Parties on the number of experts in the roster of experts, the number of experts who have passed the training examinations and the number of experts participating in the review process.

62. The SBSTA noted the importance of the training for inventory review experts, recalled the training programme referred to in decision 12/CP.9, annex I, and requested the secretariat to update this programme for the period up to 2014. The updated training programme should include training courses and seminars for new review experts and possible new training modules on, for example, the review of higher tier methods and models as well as activities relevant to the training needs of experienced inventory review experts. The SBSTA requested the secretariat to prepare, for consideration at its thirtieth session, a draft of the updated training programme.

63. The SBSTA noted the challenges of inventory reviews for some sectors given the national circumstances of some countries, and for higher tier methodologies, in particular during in-country reviews. It recalled the provision of decision 19/CP.8 on the composition of ERTs and requested the secretariat to take into account these challenges in its organization of the ERTs and, as appropriate, include additional experts in the specific sector, subject to the availability of a sufficient number of review experts. The SBSTA also requested lead reviewers to discuss, at their next meeting, their experiences with the review of higher tier methodologies and options to assist in and improve the review of these methodologies.

64. The SBSTA noted the need to enhance consistency of the reviews, underpinned by the reviewer's understanding and appropriate and consistent application of the UNFCCC review guidelines and review tools. It acknowledged the contribution of the lead reviewers and the usefulness of the recommendations resulting from the meetings of lead reviewers in improving the consistency and overall quality of the reviews. The SBSTA requested the lead reviewers to explore ways of improving the consistency of the reviews based on the experience of and lessons learned by the ERTs, Parties and the secretariat in the review process. The SBSTA also requested the secretariat to include the consideration of these matters as a permanent agenda item for the meetings of lead reviewers, and further requested the secretariat to prepare the necessary materials to facilitate this discussion.

65. The SBSTA recalled decision 12/CP.9 and noted that lead reviewers may consult with other lead reviewers on complex matters and questions during an ongoing review. The secretariat should facilitate such consultations by identifying lead reviewers with relevant expertise. The Party under review should be informed of these additional consultations. Any such consultations should be reflected in the review report.

66. The SBSTA acknowledged that managing the reporting and review processes, including the training of experts, planning and conducting the reviews and organizing the lead reviewer meetings, as well as the further development of the GHG information system, including the CRF Reporter software, is placing considerable demand on the secretariat and requires considerable resources. The SBSTA reiterated the urgent need to give priority to these fundamental activities and plan future related activities.

It invited Annex I Parties to consider supporting these fundamental activities by providing stable and sufficient funding and to strengthen the coordination capacity of the secretariat. The SBSTA requested the secretariat to prepare a note describing how the activities referred to above are planned and prioritized for 2010–2011 and identifying commensurate resource requirements, for its consideration at its thirtieth session. Although further funding has recently been provided by Parties, the SBSTA encouraged Annex I Parties in a position to do so to provide the necessary funding for the 2009 training programme.

### **B. Greenhouse gas data interface**

(Agenda item 7 (b))

67. The SBSTA considered this sub-item at its 3<sup>rd</sup> meeting, on 2 December. A statement was made by a representative of one Party speaking on behalf of the European Community and its member States.<sup>41</sup> At the same meeting, the SBSTA agreed that this item will be postponed to SBSTA 30.

### **C. Emissions from fuel used for international aviation and maritime transport**

(Agenda item 7 (c))

#### **1. Proceedings**

68. The SBSTA considered this sub-item at its 3<sup>rd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. Statements were made by representatives of 12 Parties, including one speaking on behalf of the European Community and its member States.<sup>42</sup> Statements were also made by representatives of the secretariats of the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO).

69. At its 3<sup>rd</sup> meeting, the SBSTA agreed that the Chair would draft conclusions and present them to the SBSTA at its 4<sup>th</sup> meeting.

70. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>43</sup> proposed by the Chair.

#### **2. Conclusions**

71. The SBSTA noted the information received from the secretariats of ICAO and IMO on their ongoing work relating to emissions from fuel used for international aviation and maritime transport, and the views expressed by Parties on this information.

72. The SBSTA invited the secretariats of ICAO and IMO to report, at future sessions of the SBSTA, on the outcomes of their work on this issue.

---

<sup>41</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>42</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>43</sup> Adopted as document FCCC/SBSTA/2008/L.15.

## VIII. Methodological issues under the Kyoto Protocol

(Agenda item 8)

### A. Implications of the establishment of new hydrochlorofluorocarbon-22 (HCFC-22) facilities seeking to obtain certified emission reductions for the destruction of hydrofluorocarbon-23 (HFC-23)

(Agenda item 8 (a))

73. The SBSTA considered this sub-item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. No statements were made under this agenda item.

74. At its 2<sup>nd</sup> meeting, the SBSTA agreed to consider this item in informal consultations convened by the Chair with the assistance of Mr. Jeffrey Spooner (Jamaica). At the 4<sup>th</sup> meeting, Mr. Spooner reported that these consultations were inconclusive. In accordance with rule 16 of the draft rules of procedure being applied, the item will be forwarded to the thirtieth session of the SBSTA.

### B. Carbon dioxide capture and storage in geological formations as clean development mechanism project activities

(Agenda item 8 (b))

#### 1. Proceedings

75. The SBSTA considered this sub-item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. It had before it documents FCCC/SBSTA/2008/INF.1, FCCC/SBSTA/2008/INF.3 and FCCC/SBSTA/2008/MISC.10. Statements were made by representatives of 14 Parties, including one speaking on behalf of the European Community and its member States.<sup>44</sup>

76. At its 2<sup>nd</sup> meeting, the SBSTA agreed to consider this item in a contact group co-chaired by Ms. Gertraud Wollansky (Austria) and Mr. Mohammad Reazuddin (Bangladesh). At the 4<sup>th</sup> meeting, Ms. Wollansky reported on these consultations.

77. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>45</sup> proposed by the Chair.

#### 2. Conclusions

78. The SBSTA took note of: (1) the synthesis of views on issues relevant to the consideration of carbon dioxide capture and storage in geological formations as clean development mechanism project activities;<sup>46</sup> (2) the views of Parties and accredited non-governmental organizations on, and including but not limited to, technological, methodological, legal, policy, financial and additional issues;<sup>47</sup> and (3) the synthesis report based on these new submissions.<sup>48</sup>

---

<sup>44</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>45</sup> Adopted as document FCCC/SBSTA/2008/L.21.

<sup>46</sup> FCCC/SBSTA/2008/INF.1.

<sup>47</sup> FCCC/SBSTA/2008/MISC.10 and the submissions from NGOs available at <[http://unfccc.int/parties\\_and\\_observers/ngo/items/3689.php](http://unfccc.int/parties_and_observers/ngo/items/3689.php)>.

<sup>48</sup> FCCC/SBSTA/2008/INF.3.

79. The SBSTA considered the conclusions and the draft decision proposed by the Chair. However, it did not agree to adopt these conclusions and therefore could not conclude its consideration of this issue.<sup>49</sup>

## **IX. Fourth Assessment Report of the Intergovernmental Panel on Climate Change**

(Agenda item 9)

### **1. Proceedings**

80. The SBSTA considered this item at its 2<sup>nd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. It had before it document FCCC/SBSTA/2008/8. Statements were made by representatives of three Parties, including one speaking on behalf of the European Community and its member States.<sup>50</sup> In addition, a statement was made by a representative of the Intergovernmental Panel on Climate Change (IPCC).

81. At its 2<sup>nd</sup> meeting, the SBSTA agreed that the Chair would draft conclusions and present them to the SBSTA at its 4<sup>th</sup> meeting.

82. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>51</sup> proposed by the Chair.

### **2. Conclusions**

83. The SBSTA took note of the report on the workshop on the Fourth Assessment Report (AR4) of the IPCC, held during the twenty-eighth session of the SBSTA under the guidance of its Chair.<sup>52</sup> It expressed its appreciation to representatives and experts from the IPCC for their participation in the workshop, which provided the opportunity for a direct exchange of information and views among Parties on the findings of the AR4 in relation to the science of climate change, mitigation and adaptation, and other relevant information. The SBSTA also took note of the views from Parties on the AR4.<sup>53</sup>

84. Recalling decision 5/CP.13 and the conclusions from its twenty-seventh and twenty-eighth sessions,<sup>54</sup> the SBSTA emphasized that it is important for Parties to be kept informed about findings from the AR4 that relate to their current work under the Convention and its Kyoto Protocol, including under the AWG-LCA and the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol.

85. The SBSTA took note of a statement by a representative of the IPCC on the AR4 and on the plans of the IPCC for the Fifth Assessment Report (AR5), which contained an invitation to Parties to inform the IPCC about scientific and technical questions and information that they wish to be considered in the AR5 process in order to support deliberations under the UNFCCC process. The SBSTA noted that Parties may provide this information through their IPCC focal points for introduction into the AR5 process as appropriate.

---

<sup>49</sup> In accordance with rule 16 of the draft rules of procedure being applied the item will be forwarded to the thirtieth session of the SBSTA. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) at its fourth session requested the Executive Board of the clean development mechanism (CDM) to assess the implications of the possible inclusion of carbon dioxide capture and storage in geological formations as CDM project activities and to report to the CMP at its fifth session (decision 2/CMP.4).

<sup>50</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>51</sup> Adopted as document FCCC/SBSTA/2008/L.17.

<sup>52</sup> FCCC/SBSTA/2008/8. The presentations and further information on the workshop are available at <<http://unfccc.int/meetings/sb28/items/4417.php>>.

<sup>53</sup> FCCC/SBSTA/2008/MISC.2.

<sup>54</sup> FCCC/SBSTA/2007/16, paragraph 49 and FCCC/SBSTA/2008/6, paragraph 140.

86. The SBSTA agreed that this concludes its consideration of this agenda item.

## **X. Matters relating to Article 2, paragraph 3, of the Kyoto Protocol**

(Agenda item 10)

### 1. Proceedings

87. The SBSTA considered this item at its 3<sup>rd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. Statements were made by representatives of two Parties, including one speaking on behalf of the European Community and its member States.<sup>55</sup>

88. At its 3<sup>rd</sup> meeting, the SBSTA agreed to consider this item along with the SBI agenda item “Matters relating to Article 3, paragraph 14, of the Kyoto Protocol” in a joint contact group co-chaired by Ms. Kristin Tilley (Australia) and Mr. Kamel Djemouai (Algeria). At the 4<sup>th</sup> meeting, Ms. Tilley reported on the joint contact group’s consultations.

89. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>56</sup> proposed by the Chair.

### 2. Conclusions

90. The SBSTA and the SBI acknowledged the importance of addressing matters related to Article 3, paragraph 14, and Article 2, paragraph 3, of the Kyoto Protocol, and established a joint contact group to address these matters.

91. The SBSTA and the SBI welcomed the initial exchange of views during this session on efforts being made under the SBSTA and the SBI on these matters and on opportunities for further action.

92. The SBSTA and the SBI agreed to continue these discussions in a joint contact group to be established by the SBSTA and the SBI at their thirtieth sessions.

## **XI. Other matters**

(Agenda item 11)

### 1. Proceedings

93. The SBSTA considered this item at its 3<sup>rd</sup> and 4<sup>th</sup> meetings, on 2 and 10 December, respectively. Statements were made by representatives of seven Parties, including one speaking on behalf of the Group of 77 and China and one on behalf of the European Community and its member States.<sup>57</sup>

94. At its 3<sup>rd</sup> meeting, the SBSTA agreed that the Chair would draft conclusions and present them to the SBSTA at its 4<sup>th</sup> meeting.

95. At its 4<sup>th</sup> meeting, the SBSTA considered and adopted conclusions<sup>58</sup> proposed by the Chair.

### 2. Conclusions

*Activities implemented jointly under the pilot phase*

---

<sup>55</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>56</sup> Adopted as document FCCC/SBSTA/2008/L.24.

<sup>57</sup> This position was supported by Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia, Montenegro and Turkey.

<sup>58</sup> Adopted as document FCCC/SBSTA/2008/L.19.



96. The SBSTA took note of the oral report by the secretariat that the eighth synthesis report on activities implemented jointly under the pilot phase has not yet been prepared because no new information on projects has been submitted.

97. The SBSTA decided to recommend a draft decision<sup>59</sup> on the continuation of activities implemented jointly under the pilot phase for adoption by the COP at its fourteenth session (for the text of the decision, see FCCC/SBSTA/2008/L.19/Add.1).

#### *Cooperation with the Secretariat for the Vienna Convention and its Montreal Protocol*

98. The SBSTA noted the decisions of the twentieth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer on environmental sound management of banks of ozone-depleting substances and on convening an open-ended dialogue on high global-warming potential alternatives for ozone-depleting substances.<sup>60</sup>

99. The SBSTA took note of the workshops referred to in those decisions and encouraged the secretariat to attend these workshops. The SBSTA also took note of the encouragement to Parties to include their climate experts as participants in the workshop, as referred to in decision XX/8, paragraph 4.

## **XII. Report on the session**

(Agenda item 12)

100. At its 4<sup>th</sup> meeting, on 10 December, the SBSTA considered and adopted the draft report on its twenty-ninth session.<sup>61</sup> At the same meeting, on a proposal by the Chair, the SBSTA authorized the Rapporteur to complete the report on the session, with the assistance of the secretariat and under the guidance of the Chair.

## **XIII. Closure of the session**

101. At its 4<sup>th</sup> meeting, on 10 December, the representative of the Executive Secretary shared with the SBSTA a preliminary evaluation of the administrative and budgetary implications of conclusions adopted. This follows decision 16/CP.9, paragraph 20, which requests the Executive Secretary to provide an indication of the administrative and budgetary implications of decisions if these cannot be met from existing resources within the core budget.

102. The SBSTA, at its twenty-ninth session, requested the secretariat to carry out a number of activities that have administrative and budgetary implications. The majority of this work can be covered by the core budget or by resources that have already been included in the secretariat's initial estimated requirements under the Trust Fund for Supplementary Activities for this biennium. However, under agenda item 5, "Reducing emissions from deforestation in developing countries: approaches to stimulate action", the secretariat has been asked to prepare and make available for consideration at its thirtieth session a technical paper, which presents an unanticipated cost of approximately USD 100,000.

103. At the same meeting, the Chair thanked delegates, the chairs of contact groups and convenors of informal consultations for their contributions.

---

<sup>59</sup> For the text as adopted, see document FCCC/CP/2008/7/Add.1, decision 7/CP.14.

<sup>60</sup> Decisions XX/7 and XX/8. Available at <<http://ozone.unep.org>>.

<sup>61</sup> Adopted as document FCCC/SBSTA/2008/L.14.

### Annex I

## **Relevant information and advice emerging from the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change in its first phase**

1. This annex contains relevant information and advice on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change emerging from the implementation of the first phase of the Nairobi work programme on impacts, vulnerability and adaptation to climate change.<sup>1</sup> It is noted that the implementation of the second phase of the Nairobi work programme takes into consideration the information contained in this annex, where relevant.<sup>2</sup>

### *Methods and tools*

2. Integrated assessments are viewed as a useful way to comprehensively assess social, economic and environmental impacts of climate change, accounting for the interaction between climate change and other processes.

3. The existence of numerous gaps and needs prevents methods and tools from being widely disseminated and applied. Gaps include lack of sufficient data, capacity, proper information and guidance on available methods and tools, including the associated uncertainties and limitations.

4. The identified needs include: improved capacity for local and sectoral assessments; integrated assessments at the subnational and national levels; integration of bottom-up and top-down approaches; better quantification of the costs and benefits of adaptation; and user-specific guidance on the application of the many available methods and tools.

5. Means for enhancing the dissemination of methods and tools include establishing and strengthening existing user networks to share expertise and experiences in the application of methods and tools; and establishing mechanisms to enable the comparison of methods and tools.

### *Data and observations*

6. There is a general understanding that the major challenge with regard to data and observations is not necessarily establishing an observation network, but rather maintaining it on a long-term and sustained basis after external funding ceases, and sharing the resulting data.

7. Identified data needs, particularly in developing countries, include the need for support for data collection and recovery of historical data, the need to improve the collection, management and use of data at the regional level, and the need for enhanced access to global, regional and national data.

8. In terms of observations, there is a need to improve systematic observation and monitoring systems in order to better understand the impacts of climate change, including by expanding coverage and increasing density, and for raising awareness among policymakers of the need for strengthened national meteorological and hydrological services.

9. Human capacity for analysing and generating data also needs to be built through training and education programmes, including improving understanding of uncertainties associated with the use of data and models.

---

<sup>1</sup> The information and advice is drawn from document FCCC/SBSTA/2008/12.

<sup>2</sup> The activities to be undertaken during the second phase of the Nairobi work programme are contained in document FCCC/SBSTA/2008/6, paragraphs 10–74.

10. Means for improving the capacity for collecting, managing and using observational data include undertaking a comprehensive stocktaking of the climatic and non-climatic data holdings at the national level and, based on this assessment, developing integrated management and collection systems capable of providing the information required for adaptation.

*Climate modelling, scenarios and downscaling*

11. Advances have been made in the methods for downscaling, model resolution, the simulation of processes of importance for regional change and in expanding the set of available simulations.

12. Gaps remain with respect to spatial and temporal resolution and uncertainties of scenarios and model outputs. These gaps have put constraints on the development of regional/subregional climate scenarios aiming at supporting policy-relevant impact and vulnerability assessments. Capacity-building is needed to understand the context and limitations of climate model outputs given the variety of assumptions on which models are based. There is also a need for a dialogue between the climate science community and adaptation practitioners, including policymakers, with a view to determining requirements and parameters for modelling activities so that model outputs become more policy-relevant.

13. Means for enhancing the development of regional and subregional climate scenarios include promoting regional centres and networks to ensure smooth knowledge sharing and transfer, collaboration on scenario development using various models, and capacity-building at regional and national levels.

14. Efforts to quantify and reduce uncertainty within and across models should be continued in order to increase the accuracy of future projections and the representation and communication of uncertainties should be improved to ensure credibility of model outputs and climate data.

*Climate-related risks and extreme events*

15. One of the lessons learned is that the disaster risk reduction approach to risk assessment should be taken, as it focuses on the prediction and reduction of impacts.

16. Traditional knowledge can complement other scientific sources of knowledge. Greater integration and use of such knowledge is needed in the assessment and management of climate-related risks, particularly through partnerships with grass-roots organizations.

17. Gaps remain relating to the assessment, prediction and management of climate-related risks and impacts, including uncertainties in the prediction of climate variability and extreme events and a lack of response systems for identified risks. Needs identified include better integration of disaster risk reduction and adaptation to climate change into national sustainable development policies and plans, and better methods and tools to predict, manage and reduce impacts. Another gap is the limited availability and accessibility of risk-sharing mechanisms, such as insurance, in the most vulnerable countries.

18. Means for enhancing the assessment and prediction of climate-related risks and impacts include better provision of data at the national, regional and global levels, and continuous access for users to relevant data archives and databases.

*Socio-economic information*

19. Socio-economic information can highlight the different exposures to climate threats and the adaptive capacities of regions, countries and communities.

20. Socio-economic information lags behind biophysical and meteorological information in terms of quality, availability and accessibility. A major gap is the lack of spatially differentiated socio-economic information, especially at the subnational scale. Even when socio-economic information is available, its applicability for adaptation planning is limited. Data are often collected in inconsistent formats,

disseminated on aggregate scales, dispersed in terms of their location, and not available in formats usable for vulnerability and impact assessments and adaptation planning. Further efforts are needed to improve the integration of qualitative socio-economic information into assessments.

21. Means for integrating socio-economic information into impact and vulnerability assessments include developing an open dialogue between providers and users of information in order to tailor information to specific data needs, developing guidance on the use of existing data and packaging the information so that it is of relevance to the decision-making processes, and developing information on costs and benefits of adaptation options.

#### *Adaptation planning and practices*

22. Lessons learned include: using current exposure to natural hazards and climate variability as an entry point for adaptation; using case studies and guidelines to engage stakeholders; and the importance of understanding, valuating and incorporating indigenous and local knowledge and technologies.

23. Despite some advances many gaps and needs remain. For example, there is a gap between adaptation assessment and planning, on the one hand, and implementation on the other. This is due to a number of constraints including lack of capacity, data, information and resources. Uncoordinated sectoral responses can be ineffective or even counterproductive because responses in one sector can increase the vulnerability of another sector and/or reduce the effectiveness of adaptation responses taken in that sector. Hence there is a need to adopt a cross-sectoral approach to adaptation as part of an overall sustainable development strategy.

24. Conceptual frameworks for adaptation could assist in identifying the range of available adaptation options while at the same time providing for flexibility and the redesign of options as more clarity emerges regarding the level of change or impacts to which different sectors and levels need to adapt.

#### *Research*

25. Needs identified regarding understanding impacts and vulnerabilities include reducing uncertainty in the sensitivity of the climate system, enhancing the connections between General Circulation Models and regional models to improve the performance of regional climate change models, and enhancing the validation of climate models with observations of essential climate variables.

26. In terms of facilitating adaptation planning and implementation, research needs include understanding and reducing economic, technical, social and institutional barriers to adaptation as well as better understanding of various adaptation options, including through identifying and assessing costs, benefits and potential trade-offs. Efforts also need to be made to develop adaptation scenarios for different greenhouse gas stabilization levels and assumptions.

#### *Technologies for adaptation*

27. Technologies for adaptation include hard technologies, such as drought-resistant crop varieties, seawalls and irrigation technologies, or soft technologies, such as crop rotation patterns. Many technologies have both hard and soft characteristics, and successful adaptation action would typically combine the two.

28. Traditional technologies and know-how are key to technologies for adaptation; they already exist and are suitable for many developing countries, and they can potentially be improved by local communities.

29. Many gaps and needs remain which constrain the widespread application of technologies for adaptation. Needs include building adequate human, technical and institutional capacity to diffuse and

employ technologies; improving information and awareness-raising among all stakeholders, including communities; and providing sufficient financial resources.

*Economic diversification*

30. Concerns exist over the difficulty of undertaking economic diversification, particularly in countries where national circumstances make alternative economic activities difficult.

31. Public participation is needed in all the processes that increase resilience of, and decrease reliance on, vulnerable sectors; in this regard the private sector plays a key role.

32. Gaps and needs include the need for improved tools for modelling and assessment of vulnerability to climate change impacts in the context of economic diversification. There is a lack of models that link predictions of physical impacts to input–output models in order to assess sectoral vulnerability, although these are necessary for effective economic diversification.

Annex II**Methodological guidance by the Subsidiary Body for  
Scientific and Technological Advice**

1. The SBSTA noted the importance of the following elements in relation to its programme of work initiated under decision 2/CP.13:

- (a) Promoting the readiness of developing countries in relation to decision 2/CP.13, taking into account paragraph 42 of this document;
- (b) Further mobilization of resources in relation to decision 2/CP.13, paragraphs 4 and 5, to expand related actions;
- (c) Recognizing the need to promote the full and effective participation of indigenous people and local communities, taking into account national circumstances and noting relevant international agreements;
- (d) Exploring co-benefits in the context of methodological development related to decision 2/CP.13;
- (e) Sharing lessons learned and experiences when applying the guidance referred to in paragraph 2 below and the indicative guidance in the annex to decision 2/CP.13.

2. The SBSTA, on the basis of work conducted on the methodological issues set out in decision 2/CP.13, recommends the following guidance to be taken into account:

- (a) The use of the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* and encouraging the use of the Intergovernmental Panel on Climate Change *Good Practice Guidance for Land Use, Land-Use Change and Forestry*,<sup>1</sup> as appropriate, as a basis for estimating anthropogenic forest-related emissions by sources and removals by sinks;
- (b) The need to establish robust and transparent national forest<sup>2</sup> monitoring systems, following consideration of their requirements;
- (c) If appropriate, the need to establish robust and transparent sub-national forest<sup>3</sup> monitoring systems, following consideration of their requirements;
- (d) The encouragement of national forest monitoring systems that allow transparent and independent review of their results;
- (e) The consideration of national circumstances and respective capabilities and capacities.

---

<sup>1</sup> Taking note of the work of the Intergovernmental Panel (IPCC) on Climate Change, if appropriate.

<sup>2</sup> Taking note of, if appropriate, the guidance on consistent representation of land in the IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (IPCC good practice guidance for LULUCF).

<sup>3</sup> Taking note of, if appropriate, the guidance on consistent representation of land in the IPCC good practice guidance for LULUCF.

Annex III**Documents before the Subsidiary Body for Scientific and Technological Advice at its twenty-ninth session****Documents prepared for the session**

FCCC/SBSTA/2008/7	Provisional agenda and annotations. Note by the Executive Secretary
FCCC/SBSTA/2008/8	Report on the workshop on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Note by the secretariat
FCCC/SBSTA/2008/9	Report on the workshop on climate modelling, scenarios and downscaling under the Nairobi work programme on impacts, vulnerability and adaptation to climate change. Note by the secretariat
FCCC/SBSTA/2008/10	Lessons learned in involving experts in the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change. Note by the secretariat
FCCC/SBSTA/2008/11	Report on the workshop on methodological issues relating to reducing emissions from deforestation and forest degradation in developing countries. Note by the secretariat
FCCC/SBSTA/2008/12	Summary of the results of the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change for the period up to the twenty-eighth session of the Subsidiary Body for Scientific and Technological Advice. Note by the secretariat
FCCC/SBSTA/2008/INF.1	Synthesis of views on issues relevant to the consideration of carbon dioxide capture and storage in geological formations as clean development mechanism project activities. Note by the secretariat
FCCC/SBSTA/2008/INF.3	Synthesis of views on technological, methodological, legal, policy and financial issues relevant to the consideration of carbon dioxide capture and storage in geological formations as project activities under the clean development mechanism. Note by the secretariat
FCCC/SBSTA/2008/INF.4	Annual report on the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention. Note by the secretariat
FCCC/SBSTA/2008/INF.5	Progress made in implementing activities under the Nairobi work programme on impacts, vulnerability and adaptation to climate change. Note by the secretariat
FCCC/SBSTA/2008/MISC.10	Technological, methodological, legal, policy and financial issues relevant to the consideration of carbon dioxide capture and storage in geological formations as project activities under the clean development mechanism. Submissions from Parties
FCCC/SBSTA/2008/MISC.11	Updated report by the Committee on Earth Observation Satellites on progress by space agencies involved in global observations in

	implementing actions in response to the Global Climate Observing System implementation plan. Submission from the Committee on Earth Observation Satellites
FCCC/SBSTA/2008/MISC.12	Progress in assessing the status of the development of standards for essential climate variables in the terrestrial domain. Submission from the secretariat of the Global Terrestrial Observing System
FCCC/SB/2008/INF.5	Report of the Expert Group on Technology Transfer for 2008. Note by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2008/INF.6	Developing performance indicators to monitor and evaluate the effectiveness of the implementation of the technology transfer framework. Interim report by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2008/INF.7	Identifying, analysing and assessing existing and potential new financing resources and relevant vehicles to support the development, deployment, diffusion and transfer of environmentally sound technologies. Interim report by the Chair of the Expert Group on Technology Transfer
FCCC/SB/2008/INF.8	Developing a strategy paper for the long-term perspective beyond 2012, including sectoral approaches, to facilitate the development, deployment, diffusion and transfer of technologies under the Convention. Interim report by the Chair of the Expert Group on Technology Transfer
FCCC/TP/2008/3	Physical and socio-economic trends in climate-related risks and extreme events, and their implications for sustainable development. Technical paper
FCCC/TP/2008/4	Integrating practices, tools and systems for climate risk assessment and management and strategies for disaster risk reduction into national policies and programmes. Technical paper
FCCC/SBSTA/2008/L.14	Draft report of the Subsidiary Body for Scientific and Technological Advice on its twenty-ninth session
FCCC/SBSTA/2008/L.15	Emissions from fuel used for international aviation and maritime transport. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.16	Development and transfer of technologies. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.17	Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.18	Research and systematic observation. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.19	Other matters. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.19/ Add.1	Other matters. Draft conclusions proposed by the Chair. Addendum. Recommendation of the Subsidiary Body for Scientific and Technological Advice



FCCC/SBSTA/2008/L.20	Annual report on the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.21	Carbon dioxide capture and storage in geological formations as clean development mechanism project activities. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.22	Nairobi work programme on impacts, vulnerability and adaptation to climate change. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.23	Reducing emissions from deforestation in developing countries: approaches to stimulate action. Draft conclusions proposed by the Chair
FCCC/SBSTA/2008/L.24	Matters relating to Article 2, paragraph 3, of the Kyoto Protocol. Draft conclusions proposed by the Chair

#### **Other documents before the session**

FCCC/SBSTA/2008/6	Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-eighth session, held in Bonn from 4 to 13 June 2008	
FCCC/SBSTA/2007/16	Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-seventh session, held in Bali from 3 to 11 December 2007	
FCCC/SBSTA/2006/11	Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-fifth session, held at Nairobi from 6 to 14 November 2006	
FCCC/SBSTA/2006/5	Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-fourth session, held at Bonn from 18 to 26 May 2006	
FCCC/SBSTA/2005/10	Report of the Subsidiary Body for Scientific and Technological Advice on its twenty-third session, held at Montreal from November to 6 December 2005	28
FCCC/SBSTA/2008/MISC.2	Views on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Submissions from Parties	
FCCC/SBSTA/2008/MISC.4 and Add.1–3	Views on outstanding methodological issues related to policy approaches and positive incentives to reduce emissions from deforestation and forest degradation in developing countries. Submissions from Parties	
FCCC/SBSTA/2007/MISC.18 and Add.1 and 2	Consideration of carbon dioxide capture and storage as clean development mechanism project activities. Submissions from Parties	

- FCCC/SBSTA/2007/MISC.25 and Corr.1 Views on the possible need for a group of experts and the role that they could have in the implementation and further development of the Nairobi work programme on impacts, vulnerability and adaptation to climate change. Submissions from Parties
- FCCC/CP/1996/2 Organizational matters: Adoption of the rules of procedure. Note by the secretariat
- FCCC/KP/CMP/2006/10/Add.1 Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its second session, held at Nairobi from 6 to 17 November 2006. Addendum. Part Two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its second session
- FCCC/SBI/2008/8 Report of the Subsidiary Body for Implementation on its twenty-eighth session, held in Bonn from 4 to 13 June 2008

-----