



## Convention on Biological Diversity

Distr.  
GENERAL

UNEP/CBD/SBSTTA/16/9  
6 March 2012

ORIGINAL: ENGLISH

SUBSIDIARY BODY ON SCIENTIFIC,  
TECHNICAL AND TECHNOLOGICAL ADVICE

Sixteenth meeting

Montreal, 30 April to 5 May, 2012

Item 7.2 of the provisional agenda\*

### **PROPOSALS ON INTEGRATING BIODIVERSITY CONSIDERATIONS INTO CLIMATE CHANGE-RELATED ACTIVITIES, INCLUDING ADDRESSING GAPS IN KNOWLEDGE AND INFORMATION**

*Note by the Executive Secretary*

#### **EXECUTIVE SUMMARY**

In decision X/33, the Conference of the Parties developed proposals on integrating biodiversity into relevant climate-related activities, and, noting that some obstacles remain to be addressed, especially with regard to knowledge and information on the linkages between biodiversity and climate change, requested the Executive Secretary to develop proposals on actions to address these obstacles.

Accordingly, this document considers obstacles with regards to: (i) international processes, (ii) national policy frameworks, (iii) knowledge and information on technical issues, and (iv) stakeholder participation. For each category of obstacles, the note considers relevant actions for Parties that have already been called for or suggested by the Conference of the Parties, supporting activities implemented by the Secretariat and new proposals on actions for Parties, the Secretariat and other stakeholders to address remaining gaps.

Information is drawn from the compilation of views from Parties on ways to integrate biodiversity considerations in climate change-related activities prepared for the fourteenth meeting of the Subsidiary Body (UNEP/CBD/SBSTTA/14/INF/22), an analysis of fourth national reports and a review of available national capacity self-assessments. Additional suggestions have been prepared based on an analysis of remaining gaps and opportunities.

A majority of the proposals contained in this document focus on filling knowledge and information gaps, especially with regards to improving and sharing baseline data and enhancing climate change models that consider biodiversity and ecosystem services, including bioclimatic modelling. Additional proposals are also suggested to address the other categories of obstacles, including through enhancing links at the national level, strengthening the exchange of knowledge and information between Convention subsidiary bodies as well as between stakeholder groups and supporting the Joint Liaison Group of the Rio Conventions. These proposals are in addition to the actions already taken or decisions already adopted to address the linkages between biodiversity and climate change.

\* UNEP/CBD/SBSTTA/16/1.

## SUGGESTED RECOMMENDATIONS

The Subsidiary Body on Scientific, Technical and Technological Advice may wish to adopt a recommendation along the following lines:

### I. RECOMMENDATIONS FROM THE SUBSIDIARY BODY

#### *The Subsidiary Body on Scientific, Technical and Technological Advice*

1. *Invites* Parties, other Governments, relevant organizations, and indigenous peoples and local communities, when carrying out work on biodiversity and climate change, to consider the proposals to overcome obstacles contained in the current document (UNEP/CBD/SBSTTA/16/9);

2. In particular, *invites* Parties, other Governments and relevant organizations including national and international organizations responsible for funding and conducting research activities to strengthen knowledge and information, including traditional knowledge, information and practices, on the linkages between biodiversity and climate change by:

(a) Promoting work that considers the outputs from a number of individual models (multi-model combinations) to generate more accurate projections of the impacts of climate change on biodiversity, with respect to various political and socio-economic scenarios, including impacts due to climate change induced shifts in use patterns in land and marine areas;

(b) Building knowledge on the potential impacts of climate change and climate change response activities on biodiversity that is relevant to the specific needs of indigenous and local communities, and of various stakeholders, from local to regional scales;

(c) Improving the dissemination and use of local and traditional knowledge, innovations and practices with the free, prior and informed consent of the indigenous and local communities that hold that knowledge;

(d) Establishing regional programmes for the modelling of the impacts of climate change on biodiversity with an aim to fill remaining modelling gaps by capturing the efficiencies possible from a regional approach;

(e) Addressing remaining gaps in biodiversity modelling including, *inter alia*, the impacts of invasive alien species and overexploitation in terrestrial, coastal and marine systems; pollution and invasive species in freshwater systems; and land degradation and pollution in coastal and marine systems;

(f) Strengthening the understanding of climate change impacts on ecosystem services;

(g) Identifying data and information needs, availability and gaps in order to determine how to develop or improve the extent to which existing data collection and management systems support decision-making, adaptive management and the fulfilment of international obligations, including reporting on biodiversity-related impacts and associated safeguards;

(h) Improving the interoperability of relevant data sets and establishing national data collection and management systems; and

(i) Investing in higher education and training programmes concerning bioclimatic modelling and climate-related disaster forecasting.

3. *Requests* the Executive Secretary, in collaboration with relevant organizations, to build awareness of ongoing biodiversity data and modeling initiatives among organizations and programmes engaging in climate-change modelling;

4. *Further requests* the Executive Secretary to continue discussions within the Joint Liaison Group on the relevant activities presented in the current document for further consideration and implementation as appropriate, and to explore options to enhance the interoperability of databases on ecosystem based approaches for adaptation and mitigation.

## II. RECOMMENDATION TO THE CONFERENCE OF THE PARTIES

The Subsidiary Body on Scientific, Technical and Technological Advice *recommends* that the Conference of the Parties at its eleventh meeting adopts a decision along the following lines:

*The Conference of the Parties,*

*Recalling* activities to integrate biodiversity into relevant climate change activities already identified through decision IX/16, annex II and decision X/33, paragraph 8,

1. *Endorses* the recommendations of the Subsidiary Body (recommendation XVI/-, paragraph 2) to strengthen knowledge and information on the linkages between biodiversity and climate change;

2. *Welcomes* the collaboration among the secretariats of the Rio conventions, the Global Environment Facility and other organizations in the convening of the Rio Conventions Pavilions at meetings of the Conferences of the Parties to the Rio conventions as well as the Earth Summit Rio+20;

3. *Encourages* Parties, other Governments and relevant organizations to explore options for further financing to fill biodiversity and ecosystem services data gaps that are critical for climate-change planning and modeling;

4. *Invites* Parties and other Governments to take into account the vulnerability and values of traditional knowledge, innovations and practices related to biodiversity and the impacts of climate change when developing national and sector plans and strategies;

5. *Requests* the Executive Secretary to identify relevant workshops and activities under the Nairobi work programme on impacts, vulnerability and adaptation to climate change, as well as under Nationally Appropriate Mitigation Actions (NAMAs) and disseminate such information through the clearing-house mechanism of the Convention and other means with a view to enhancing knowledge sharing on ecosystem based approaches for adaptation.

## I. INTRODUCTION

1. At its tenth meeting, the Conference of the Parties to the Convention on Biological Diversity developed proposals on integrating biodiversity into relevant climate-related activities (decision X/33, paragraph 8). It also requests the Executive Secretary to develop additional proposals on actions to address the obstacles listed in section IV of the compilation of views submitted by Parties on ways to integrate biodiversity considerations into climate change-related activities (UNEP/CBD/SBSTTA/14/INF/22) for the consideration of the Subsidiary Body and called on the Executive Secretary to develop proposals on options for addressing gaps in knowledge and information on the impact of climate change on biodiversity outlined in the report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change (UNEP/CBD/SBSTTA/14/INF/21).

2. It should be noted that a number of the suggested activities for Parties adopted by the Conference of the Parties at its ninth and tenth meetings, through decisions IX/16 and X/33 on biodiversity and climate change, are relevant to the obstacles referred to above. As such, the present document presents new proposals only and in order to avoid overlap with previous decisions of the Conference of the Parties. Furthermore, in presenting proposals, this document respects the independent legal status and differing mandates of the Rio conventions and the need to ensure value added for Parties.

3. This document contains the following sections in addition to the introduction: international processes (section II); national policy frameworks (section III); information and knowledge (section IV); stakeholder participation (section V); and conclusions (section VI). In each section, some additional activities are suggested for other convention bodies and secretariats, bearing in mind that the Convention on Biological Diversity can only suggest activities to such bodies and institutions and cannot mandate action.

4. This document supports the achievement of Targets 10 and 15 of the Strategic Plan for Biodiversity 2011-2020: *by 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning and, by 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification respectively.*

5. Main sources of information for this document include a compilation of views from Parties on ways to integrate biodiversity considerations in climate-change related activities (UNEP/CBD/SBSTTA/14/INF/22), national biodiversity strategy and action plans (NBSAPs) and fourth national reports. Information was also gathered from National Communications and National Adaptation Programmes of Action under the United Nations Framework Convention on Climate Change.

6. In order to facilitate the work of the Subsidiary Body, an information document on examples of bioclimatic models (UNEP/CBD/SBSTTA/16/INF/26) and the report on the Rio Conventions Pavilion (UNEP/CBD/SBSTTA/16/INF/27) have been prepared in association with this document.

7. Decision X/33 requests that the Executive Secretary collaborate with the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) in reviewing and revising the resource kit for National Capacity Self Assessments with a view to ensuring that implementation of activities identified in the assessments better reflect decisions of the Conference of the Parties on biodiversity and climate change, particularly those related to enhancing the capacity of developing countries to implement decision IX/16 on biodiversity and climate change. After discussions with relevant partners, however, it was agreed that following the recent decisions of the Conference of the Parties, and based on priorities identified by Parties, synergies between biodiversity and climate change have already been well reflected in the existing resource kit and, as such, there is very little added value to further work. For this reason and given the significant resource constraints faced by the Secretariat, no additional action has been taken on this matter.

## II. INTERNATIONAL PROCESSES

8. In each of the following sections, a summary of relevant information from the compilation of views of Parties on ways to integrate biodiversity considerations in climate-change related activities (UNEP/CBD/SBSTTA/14/INF/22) is followed by an overview of actions already taken or agreed upon to address related obstacles, followed by proposals for new and additional actions.

### A. *Summary of obstacles identified by Parties*

9. When considering the relationship and links between the United Nations Framework Convention on Climate Change (UNFCCC), specific challenges include:

(a) The level of technical details and specificity of guidelines for issues of common interest among CBD and UNFCCC is divergent and, as such, it is difficult to establish synergies within adopted decisions;

(b) The terminology used under the two conventions differs;

(c) As the Conference of the Parties to UNFCCC meets annually, whereas the Conference of the Parties of the Convention on Biological Diversity meets every two years, there is often insufficient time for the Conference of the Parties to the Convention on Biological Diversity to consider many of the issues that must be resolved under UNFCCC in order to improve linkages between biodiversity and climate change. For example, ecosystem-based approaches for adaptation emerged as an issue when the UNFCCC Subsidiary Body on Scientific and Technological Advice (SBSTA) reported to the sixteenth meeting of the Conference of the Parties to UNFCCC in November – December 2010, with further actions required for the SBSTA to report to the seventeenth meeting of the COP to UNFCCC in November – December 2011;

(d) Delegates to each CBD and UNFCCC often have limited knowledge of ongoing discussions and processes under the other convention;

(e) Because of the lack of formal processes for evaluating proposed UNFCCC decisions as they impact implementation of the Convention on Biological Diversity, and visa versa, legal regulations and financial incentives under one process may have unintended consequences when implemented at the national or regional level.

### B. *Review of progress*

#### 1. *Activities already proposed for Parties*

10. Under annex II to decision IX/16, Parties already identified a number of activities to address the above challenges, including:

(a) Scheduling periodic meetings between focal points and focal point teams of the two conventions;

(b) Establishing a national coordinating committee for implementation of the three Rio conventions including, as appropriate, mainstreaming implementation into sustainable development strategies, the Millennium Development Goals and other relevant sectors and strategies;

(c) Engaging, when relevant, focal points from other conventions when forming a position for negotiations;

(d) Involving focal points from the United Nations Forum on Forests and relevant forest-related and other conventions in discussions on relevant issues, such as, reducing emissions from deforestation and forest degradation, as well as through afforestation and reforestation, and other relevant issues;

(e) Providing input, as appropriate, to the Joint Liaison Group.

## 2. *Activities already undertaken by the Secretariat*

11. Activities already undertaken by the Secretariat include:

- (a) A draft modus operandi and terms of reference for the Joint Liaison Group has been proposed by the executive secretaries to the Rio conventions (<http://www.cbd.int/cooperation/doc/jlg-modus-operandi-en.pdf>);
- (b) A comparison is under way between the glossaries of UNFCCC and UNCCD and the definitions of terms under the Convention on Biological Diversity for the consideration of the twelfth meeting of the Joint Liaison Group;
- (c) The Secretariat has provided input into relevant ongoing processes under UNFCCC including on ecosystem-based approaches to adaptation and reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries;
- (d) The Secretariat has, when possible, attended and contributed to the UNCCD workshops on alignment of National Action Programmes;
- (e) Joint events were held to celebrate the United Nations Decade on Biodiversity and the United Nations Decade on Deserts and the Fight against Desertification; and
- (f) The Joint Liaison Group has agreed to the development of joint publications on common themes such as the conservation and sustainable use of forests, ecosystem-based approaches to climate-change mitigation and gender mainstreaming.

### C. *Proposals to address remaining obstacles*

12. There are already a number of commonalities between the three Rio conventions and, as such, Parties have provided examples of how challenges arising from international processes can be addressed at the national level (see annex). In order to address such challenges, Parties suggest a number of items for further action noting that such items cannot be mandated to the other Rio conventions as a result of the distinct status and mandates of each convention. Rather, the following is presented as: (i) suggestions that Parties may wish to consider implementing at the national level; and (ii) possible actions for the Secretariat to be brought to the attention of the other Rio conventions through the Joint Liaison Group and/or other appropriate mechanisms:

#### *Proposals for Parties*

- (a) Encourage Parties to coordinate within regional groups in order to include representatives responsible for the implementation or negotiation of the other Rio conventions, as well as other relevant stakeholders, in delegations to relevant meetings of the Convention on Biological Diversity and to promote regional coordination and exchanges of information;

#### *Proposals for the Secretariat*

- (b) Request that the Executive Secretary prepare a report on relevant SBSTA/CST activities for the information of each meeting of the Subsidiary Body under the Convention on Biological Diversity;
- (c) Convene a session for policy makers at Rio+20 as part of the Rio Conventions Pavilion established in partnership with the secretariats of the Rio conventions and the Secretariat of the Global Environment Facility and convened at Rio+20 in partnership with the United Nations Department of Economic and Social Affairs;
- (d) Build links between the United Nations Decade on Biodiversity and the Secretary General's Special Advisor on Climate Change;
- (e) Identify relevant projects and programmes under the Nairobi work programme on impacts, vulnerability and adaptation to climate change and Nationally Appropriate Mitigation Actions

(NAMAs) concerning ecosystem-based mitigation approaches and disseminate relevant information through the clearing-house mechanism;

(f) Collaborate with UNFCCC on the workshop on ecosystem-based approaches for adaptation to climate change called for by the seventeenth meeting of the Conference of the Parties to UNFCCC in its decision on the Nairobi work programme on impacts, vulnerability and adaptation to climate change;

(g) Expand the work on the comparison of glossaries referred to in paragraph 10 (b), above, to also include the glossary of the Intergovernmental Panel on Climate Change;

(h) Continue to develop and disseminate, including through the Joint Liaison Group, information and guidance on topics where the Convention on Biological Diversity has extensive expertise and which are of relevance to UNFCCC, for example on ocean acidification, ecosystem based approaches to adaptation and impacts and vulnerability assessments in so far as they relate to biodiversity.

*Proposals for bodies of the Convention on Biological Diversity*

(i) Include a reporting item on the Subsidiary Body on Scientific and Technological Advice (SBSTA) of UNFCCC and the UNCCD Committee on Science and Technology (CST) discussions / decisions in the agenda of each meeting of the Subsidiary Body of the Convention on Biological Diversity.

(j) Invite relevant UNFCCC staff to deliver briefings at the margins of relevant meetings of the Convention on Biological Diversity;

*Proposals for other convention secretariats or other convention bodies*

(k) In collaboration with relevant bodies under the Convention on Biological Diversity, identify scientific issues of concern to all bodies and develop proposals for or joint reports to be submitted on such items;

(l) Strengthen links between the national biodiversity strategies and action plans (NBSAPs) under the Convention on Biological Diversity, the National Adaptation Plans (NAPs) of UNFCCC and the National Action Programmes (NAPs) under UNCCD, building on existing calls for collaboration including paragraph 6 of decision 4/COP.8 of the Conference of the Parties to UNCCD which invites the Joint Liaison Group to advise on ways and means to strengthen the links between the NAPs and the NBSAPs as well as decision IX/16 of Convention on Biological Diversity which calls for the Executive Secretary to convene workshops to integrate considerations on the impacts of climate change, and both the positive and negative impacts of climate-change mitigation and adaptation activities within programmes of work and NBSAPs and the decision on NAPs adopted at the seventeenth meeting of the Conference of the Parties to UNFCCC (decision number unavailable at the time of publication of this document) which calls for NAPs to consider vulnerable ecosystems;

(i) Expand the existing UNFCCC - UNCCD pilot project on NAPAs – NAPs to include NBSAPs as per the invitation received from the Secretariat of UNCCD;

(ii) Explore options for convening joint workshops to enhance the integration of links between biodiversity, climate change and combating desertification / land degradation within CBD national biodiversity strategies and action plans (NBSAPs), the UNFCCC National Adaptation Plans (NAPs) and the UNCCD National Action Programmes (NAPs);

(iii) Develop joint technical information on biodiversity monitoring strategies for climate-related activities;

*Proposals for other relevant organizations*

(m) Further enhance links with the United Nations Forum on Forests (UNFF) and the other members of the Collaborative Partnership on Forests (CPF). Additional information is provided in the

relevant sections of the note by the Executive Secretary on biodiversity and health (UNEP/CBD/SBSTTA/16/16).

### **III. NATIONAL POLICY FRAMEWORKS**

#### **A. Summary of obstacles identified by Parties**

13. Obstacles identified by Parties include:

(a) The difference in compliance mechanisms between different conventions and protocols may lead to different prioritizations in implementation. In particular, as the Convention on Biological Diversity has no specific compliance mechanisms, there may be a tendency to consider the processes and guidelines of UNFCCC and the Kyoto Protocol as a higher priority during national implementation;

(b) At the national level, Parties identified difficulties with regards to matching national plans and policies to local and regional activities. This is especially true in the case of adaptation which is highly dependent on local conditions and highly reliant upon local stakeholders for implementation.

#### **B. Review of progress**

##### *1. Activities already proposed for Parties*

14. Activities already proposed for Parties include:

(a) Review existing national plans to identify gaps in synergies;

(b) Identify relevant sector plans and policies that could benefit from cooperation on biodiversity, desertification and climate change;

(c) Revise relevant plans and policies, as appropriate to enhance cooperation;

(d) Build institutional and scientific capacity and raise awareness among different ministries, policy-makers, indigenous peoples and local communities and non-governmental organizations dealing with the three Rio conventions and other relevant conventions;

(e) Integrate biodiversity, climate change and desertification/land degradation issues in forest sector planning;

(f) National focal points share, to the extent possible, databases containing reporting data and information sources and identify synergies, where fulfilment of requirements of one convention may also fulfil requirements of another;

(g) Where relevant, focal points work together on drafting the national reports for each convention.

##### *2. Activities already undertaken by the Secretariat*

15. Joint notifications on relevant meetings convened by the Intergovernmental Panel on Climate Change were sent to CBD focal points.

#### **C. Proposals to address remaining obstacles**

16. Proposals to address remaining obstacles include:

##### *Proposals for Parties*

(a) Identify priorities for regional or thematic coordination within national level plans for biodiversity and climate change and develop region-specific action plans where appropriate and based on national circumstance;

(b) Inform regional representatives of the Bureau of the Conference of the Parties and the Subsidiary Body on Scientific, Technical and Technological Advice if experts on climate change or desertification/ land degradation will attend relevant meetings of the Convention on Biological Diversity so that such information can be shared with other Parties in the region;

(c) Consider the vulnerability and value of traditional knowledge, innovations and practices to the negative impacts of climate change on biodiversity when developing national and sector plans and strategies.

#### IV. INFORMATION AND KNOWLEDGE

##### A. *Summary of obstacles identified by Parties*

17. The calculation of the amount of carbon stored in some ecosystems, such as wetlands and soil, is perceived as being very difficult. In addition, the lack of general knowledge concerning the value of ecosystem services may lead to an undervaluation of some ecosystems (including their carbon sequestration activities) when compared to ecosystems in which such knowledge is readily available.

18. Other specific information or knowledge needs identified by Parties include:

(a) Information on the costs of biodiversity loss within the evaluation of climate change-related actions;

(b) Downscaled climate models to assess local and regional impacts, as well as information on criteria to assess the scale of resolution in order to maintain a balance between the resolution of climate models and the number of assumptions required to generate them;

(c) Improved bioclimatic models;

(d) Information on the links between biodiversity-based livelihoods and climate change.

19. The above gaps are in addition to the suggestions for additional research needed to quantify complex processes and interactions made by the Second Ad hoc Technical Expert Group on Biodiversity and Climate Change, which include:

(a) Spatially explicit biodiversity data – Freely available biodiversity datasets are growing in number and scope, but there is a great need both for increased access to such data, digitization of existing datasets, and the collection of new data in sampled regions, especially in biodiversity-rich areas;

(b) Climate data - Readily available downscaled probabilistic projections at appropriate spatial scales, including projections of extreme events and precipitation patterns, are required for developing regional and local risk and vulnerability assessments and adaptation options;

(c) The predictive ability of bioclimatic models requires quantification and improvement –

(i) The projections of bioclimatic models should be formally tested against observed species range shifts;

(ii) Currently, many bioclimatic models focus on single species, or undifferentiated groups of species (e.g., biomes, plant functional types). Models that take account the interactions between species and between trophic levels should be further elaborated and used;

(iii) Climate change impact assessments should optimally be integrated with assessments of other stresses on ecosystems such as current and future land-use change, and changes in disturbance regimes where applicable;

(iv) Modelling tools are needed to link the climate and emissions data and scenarios with hydrological and sea-level rise models;

(v) Improvements are needed in the integration of feedback mechanisms in order to address differences between modelled changes and observed impacts;

(vi) Systems that link the bioclimatic modelling approach with other physical and anthropogenic drivers, such as land-use models, fire models, hydrological models, vegetation change models, etc., need to be developed, preferably with the ability to quantify feedbacks;

(d) Coupled human-natural systems models – Models linking climate change and ecosystems can also be coupled to models of human behaviour and decision-making, thus representing key interactions between social and ecological systems;

(e) The establishment of multi-purpose monitoring programmes for climate change impacts that include the impacts of climate change on biodiversity would be beneficial in maximizing the use of limited resources - A monitoring programme that tracks and reports biodiversity status, within a framework that includes threat status monitoring and the recording of the effectiveness of adaptation measures is also recommended. Such a multi-purpose monitoring programme could support a country in achieving its national goals, reporting to international conventions, and employing adaptive management;

(f) More experimental and lab-based studies are needed on the combined effects of multiple pressures, including temperature, precipitation, CO<sub>2</sub>, land-use, invasive species and nitrogen deposition. Finally, broader geographic coverage is necessary to draw globally relevant conclusions, as much of this work has been conducted in temperate, northern hemisphere ecosystems and tropical forest systems;

(g) It is important to develop a much clearer understanding of the linkages between biodiversity impacts due to climate change and their implications for human society. Significant advances have been made recently in quantifying the value of ecosystems and their biodiversity, but these are not yet widely incorporated into climate change impact assessment approaches;

(h) Observations from indigenous and local communities and other vulnerable groups often form an important component of impact assessments and, when relevant, should be conducted with free prior and informed consent and with the full and effective participation of indigenous and local communities.

20. Additional gaps include information and systems that are needed to collect information to report on existing safeguards (i.e. REDD+) or other biodiversity or social safeguards that may be established.

## ***B. Review of progress***

### *1. Activities already proposed for Parties*

21. Under annex II of decision IX/16, Parties already identified a number of activities to address the above challenges including:

(a) Provide inputs to the technology transfer databases of the three Rio conventions;

(b) Prepare, as appropriate, transparent impact assessments and risk analysis on the transferred technologies taking into consideration economic viability, social acceptability and environmental benefits;

(c) Enhance cooperation among national focal points for the implementation of the programme of work on technology transfer under the Convention on Biological Diversity through, for example, the designation of appropriate institutions acting as a central consulting point for technology transfer;

(d) Identify technologies of joint interest and relevance at a regional and global scale;

(e) Share at regional and global levels, experiences and lessons learned on communicating synergies;

(f) Develop a common pool of experts on the interrelated issues of climate change, biodiversity and combating desertification/land degradation to address the information gaps on the status, trends and threats to biodiversity, particularly within dry and sub-humid lands;

(g) Conduct, as appropriate, national and local assessments of climate change impacts on biodiversity and desertification/land degradation;

(h) Identify, as appropriate, local and indigenous knowledge that can contribute to synergies;

- (i) Identify research and/or monitoring needs and establish mechanisms or processes by which such needs could be met;
- (j) Encourage additional research on the impacts of climate change on oceans and marine biodiversity;
- (k) Encourage additional research and monitoring on the impacts of increased frequency and intensity of extreme weather events on biodiversity and associated resources;
- (l) Identify actions that contribute to the conservation and sustainable use of peatlands and other wetlands as well as marine carbon sinks such as mangroves, estuaries and seagrasses, and enhance their positive contribution to climate change response activities;
- (m) Identify the impacts of climate change on ecosystem services and their socio-economic benefits;
- (n) Harmonize temporal and spatial scales in data collection and analysis considering climate change and biodiversity status and trends.

22. Under decision X/33, paragraph 8, Parties identified a number of additional activities to address the above challenges including:

- (a) Identify, monitor and address the impacts of climate change and ocean acidification on biodiversity and ecosystem services, and assess the future risks for biodiversity and the provision of ecosystem services using the latest available vulnerability and impact assessment frameworks and guidelines;
- (b) In planning and implementing effective climate-change mitigation and adaptation activities, including renewable energies, take into account impacts on biodiversity and the provision of ecosystem services and avoid the conversion or degradation of areas important for biodiversity through:
  - (i) Considering traditional knowledge, including the full and effective participation of indigenous peoples and local communities;
  - (ii) Building on a scientifically credible knowledge base;
  - (iii) Considering components of biodiversity important for its conservation and sustainable use;
  - (iv) Applying the ecosystem approach; and
  - (v) Developing ecosystem and species vulnerability assessments.

#### 2. *Activities already undertaken by the Secretariat*

23. Activities already undertaken by the Secretariat include:

- (a) A review of bioclimatic models has been prepared (UNEP/CBD/SBSTTA/16/INF/26);
- (b) The database of ecosystem-based approaches to adaptation has been revised and updated (<http://adaptation.cbd.int>); and
- (c) Gaps in biodiversity models have been identified in Technical Series No. 50 (<http://www.cbd.int/doc/publications/cbd-ts-50-en.pdf>).

### **C. *Proposals to address remaining obstacles***

#### *Proposals for Parties*

24. Proposals for Parties include:

- (a) Improve the interoperability of data sets on the impacts of climate change on biodiversity;

- (b) Build capacity for the calculation of carbon stored in wetlands and soil based on existing scientific information and technical methods while bearing in mind the need for additional research, for example, to fully quantify carbon stored in seagrasses;
- (c) Identify data needs and establish national data collection and management systems;
- (d) Invest in higher education programmes concerning bioclimatic modelling and climate forecasting and enhance scientific cooperation thereon to promote North-South and South-South cooperation for research and technological cooperation;
- (e) Explore the feasibility of establishing regional programmes on bioclimatic modelling in order to enhance awareness of the impacts of climate change on biodiversity;
- (f) Build awareness of ongoing biodiversity data initiatives among the climate-change planning and modelling community;
- (g) Explore options for further financing to fill biodiversity data gaps that are critical for climate-change planning and modelling;
- (h) Support multi-model combinations to generate comprehensive predictions of impacts as no single model covers the whole range from socio-economic developments, policy inputs, environmental and land-use change, and biodiversity and ecosystem services for terrestrial and aquatic systems; and
- (i) Address remaining gaps in biodiversity modelling identified by Parties, through document UNEP/CBD/SBSTTA/14/INF/22, including with regards to the impacts of invasive alien species and overexploitation in terrestrial systems; dam construction, pollution and invasive species in freshwater systems; and habitat degradation, land use change and pollution in coastal and marine systems;
- (j) In implementing all of the above, Parties should build on existing projects and programmes, an example of which are provided in the information note Examples of Bioclimatic Models;

*Proposals for the Secretariat*

25. The Secretariat might explore with UNFCCC, options to enhance the interoperability of databases, and report on such options to the Joint Liaison Group for its consideration.

## **V. STAKEHOLDER PARTICIPATION**

### **A. Summary of obstacles identified by Parties**

26. While Parties recognized the need to include stakeholders involved in the management and use (including non-use applications) of biodiversity in the design and implementation of activities, some Parties revealed that such a process is long, costly and complex. In particular, the full and effective participation of all relevant stakeholders requires (i) the identification of relevant stakeholders, (ii) an understanding of their interests (economic and non-economic), (iii) awareness raising for stakeholders to fully understand projected impacts, (iv) local and, where relevant, regional consultations, and (v) the establishment of a mechanism for reporting and feedback.

27. Many mitigation activities, which could otherwise serve as natural links for biodiversity and climate change, have a long time horizon (especially when considering afforestation and reforestation and the protection of mangroves, salt marshes and sea grasses). Some Parties expressed difficulties in mobilizing the private sector to invest in such projects despite existing incentive frameworks.

### **B. Review of progress**

#### *1. Activities already proposed for Parties*

28. Under Decision X/33, paragraph 8, Parties already identified a number of activities to address the above challenges, including:

(a) Undertaking awareness-raising and capacity-building strategies on the key role of biodiversity conservation and sustainable use as a mechanism for climate change mitigation and adaptation;

(b) Recognizing the role of indigenous and local community conserved areas in strengthening ecosystem connectivity and resilience across the sea and landscape thereby maintaining essential ecosystem services and supporting biodiversity-based livelihoods in the face of climate change.

## 2. *Activities already undertaken by the Secretariat*

29. Furthermore, in order to address the challenges arising from the need for stakeholder participation, the following activities have been undertaken by the Secretariat:

The Rio Conventions Pavilion, highlighting the links between biodiversity, climate change and sustainable land management, has been convened at each meeting of the Conferences of the Parties to the Convention on Biological Diversity, UNCCD and UNFCCC in 2010 and 2011. Additional information on the Rio Conventions Pavilion is available in the report on the Rio Conventions Pavilion (UNEP/CBD/SBSTTA/16/INF/27).

## C. *Proposals to address remaining obstacles*

30. Proposals to address remaining obstacles include:

### *Proposals for Parties*

(a) Provide capacity-building for local stakeholders (including the establishment of pilot projects demonstrating best practices);

(b) Support knowledge-building on the development of regional-to-local climate-change information relevant to the specific needs of different stakeholders;

(c) Support mechanisms whereby traditional knowledge can contribute to the enhanced integration of climate change considerations related to biodiversity, and inclusion of indigenous peoples and local communities in processes to integrate climate change within national biodiversity strategy and action plans.<sup>1</sup>

(d) Disseminate information on relevant decisions under the Convention on Biological Diversity to stakeholders in other sectors, including the private sector and indigenous peoples and local communities;

(e) Support the participation of youth delegates and indigenous peoples and local communities in relevant meetings of the Convention on Biological Diversity.

### *Proposals for the Secretariat*

(f) Convene lecture series and workshops for policy makers and planners at different levels;

(g) Continue to convene the Rio Conventions Pavilion at major events in 2012;

(h) Develop a resource kit on biodiversity and climate change links as part of the Convention on Biological Diversity Business and Biodiversity Initiative.

## VI. CONCLUSIONS

31. Parties have agreed to a number of actions to promote links between biodiversity and climate change, in particular through decisions IX/16 and X/33 of the Conference of the Parties to the Convention on Biological Diversity. These actions have yielded positive results in terms of supporting implementation of the climate change related activities under the Convention on Biological Diversity.

<sup>1</sup> <http://www.cbd.int/doc/meetings/cop/cop-09/information/cop-09-inf-43-en.doc>.

32. Nevertheless, on a technical level, there is scope for additional activities by the Executive Secretary and Parties. Of particular relevance to the Subsidiary Body are the obstacles related to filling knowledge and information gaps as identified by Parties as well as the Second Ad Hoc Technical Expert Group on biodiversity and climate change. As such, a series of proposals on improving data and modeling and enhancing stakeholder participation in knowledge generation and dissemination are presented for consideration.

33. Such activities should complement actions already under way as well as those already adopted by the Conference of the Parties. Furthermore, such activities would benefit from coordination with relevant processes under UNFCCC such as the Nairobi work programme on impacts, vulnerability and adaptation to climate change.

*Annex*

**EXAMPLES OF ACTIONS AT THE NATIONAL LEVEL TO ADDRESS CHALLENGES ARISING FROM INTERNATIONAL PROCESSES**

The following examples are drawn from national reports under the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), as well as National Capacity Self Assessments and reports provided to the Secretariat by Parties. This is not intended to be an exhaustive list, but rather is intended to demonstrate the range of actions undertaken to promote synergies at the level of international processes.

*Establishment of national level coordination bodies*

In order to strengthen links between the implementation of CBD and UNFCCC, a number of Parties have established national level coordination bodies addressing planning, research and/or implementation. For example:

- The Philippines established an inter-agency committee on climate change including biodiversity experts (Section 1.5.2. of the fourth national report to CBD, <http://www.cbd.int/doc/world/ph/ph-nr-04-en.pdf>).
- The Republic of Korea established a climate change task force to develop and implement a research plan, including research on the impacts of climate change on biodiversity (Chapter 2 of the fourth national report to CBD, <http://www.cbd.int/doc/world/kr/kr-nr-04-en.pdf>).
- South Africa established a Climate Action Partnership including NGOs from multiple sectors (<http://www.cap.org.za/>).
- Sri Lanka established a National Coordination Committee on climate change (Section 4.2 of the fourth national report to CBD, <http://www.cbd.int/doc/world/lk/lk-nr-04-en.pdf>).
- Germany established a national dialogic process between biodiversity and climate change experts.

*Integration of climate change within national biodiversity strategy and action plans*

In order to enhance the integration of climate change and biodiversity-related activities, a number of Parties have included climate change as a theme or activity within their national biodiversity strategy and action plans (NBSAP). For example:

- Cambodia has included climate change as Theme 13 in the NBSAP (Theme 13 of NBSAP, <http://www.cbd.int/doc/world/kh/kh-nbsap-01-en.pdf>).
- Czech Republic has included an entire chapter on climate change in the NBSAP (Chapter 10 of NBSAP, <http://www.cbd.int/doc/world/cz/cz-nbsap-01-en.pdf>).
- Japan integrated climate change into the third NBSAP (In particular Part 2, Section 6, <http://www.cbd.int/doc/world/jp/jp-nbsap-v3-en.pdf>).

*Integration of biodiversity within climate change adaptation planning*

A number of Parties have included biodiversity elements or activities within national adaptation plans, including National Adaptation Programmes of Action (NAPA) under UNFCCC. For example:

- Hungary included specific elements on biodiversity within their National Climate Change Strategy (Chapter 4 of the 5<sup>th</sup> National Communication to the UNFCCC, [http://unfccc.int/resource/docs/natc/hun\\_nc5.pdf](http://unfccc.int/resource/docs/natc/hun_nc5.pdf)).
- Nepal has included biodiversity in its NAPA (Chapter 4 of the NAPA, <http://unfccc.int/resource/docs/napa/npl01.pdf> )

*Mainstreaming biodiversity-climate change links into national policies or plans*

For a number of Parties the most effective and efficient method of linking biodiversity and climate change is through the mainstreaming of the links between the two issues within policies and plans for other relevant sectors. For example:

- Uganda has mainstreamed biodiversity – climate change links into national environment, wetland and forest policies (NAPA, <http://unfccc.int/resource/docs/napa/uga01.pdf> ; and 4th National Report to CBD, <http://www.cbd.int/doc/world/ug/ug-nr-04-en.pdf> ).
- Italy has adopted a Strategic Programme for Sustainable Development and Climate Change which includes a vulnerability assessment for biodiversity (Chapter 8 of the Italian 4<sup>th</sup> National Communication to UNFCCC, <http://unfccc.int/resource/docs/natc/itanc4.pdf#page=250>).

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