Annex I

RECOMMENDATIONS ADOPTED BY THE SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE AT ITS SEVENTH MEETING

VII/1. *Ad hoc technical expert groups*

The Subsidiary Body on Scientific, Technical and Technological Advice *notes with satisfaction* the report of the Executive Secretary on the status and work of ad hoc technical expert groups (UNEP/CBD/SBSTTA/7/2).

VII/2. ***Assessment processes: progress report on ongoing assessments***

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling its recommendation VI/5,

1. *Welcomes* the steps taken by the Executive Secretary to implement the pilot assessments as described in annex II to his progress report on ongoing assessments (UNEP/CBD/SBSTTA/7/3);

2. *Approves* the procedure being used to carry out assessments under the Convention through the use of ad hoc technical expert groups, outlined in annex I to the progress report of the Executive Secretary on ongoing assessments;

3. *Agrees* to keep this procedure under review, and, in the light of experience, to periodically revise and improve it;

4. *Welcomes* also the contribution that the assessments listed in section III of the progress report of the Executive Secretary on ongoing assessment processes are making to the work of the Subsidiary Body on Scientific, Technical and Technological Advice and the Convention, as well as ongoing work at the national and regional level; and *invites* those participating in these assessments to keep the Subsidiary Body informed of their work;

5. *Welcomes*, in particular, the approach taken by the Millennium Ecosystem Assessment as described in the information document on the status and outline of the Assessment prepared by the Assessment secretariat (UNEP/CBD/SBSTTA/7/INF/15);

6. *Invites* the secretariat of the Millennium Ecosystem Assessment to fully utilize the rosters of experts under the Convention in the process for nominating experts for the working groups of the Assessment;

7. *Calls upon* Parties and Governments to provide nominations for experts for the four working groups being set up by the Millennium Ecosystem Assessment;

8. *Recommends* that the Conference of the Parties consider the need to provide assistance to developing country Parties so that experts from these Parties can properly participate in the work of the Millennium Ecosystem Assessment;.

9. *Requests* the Executive Secretary to inform the Conference of the Parties at its sixth meeting on the progress of pilot assessments, and, in consultation with relevant organizations, to bring to the attention of the Subsidiary Body any important assessment gaps in the work under the Convention, together with proposals on ways and means to address such gaps;

10. *Welcomes* the agreement by the Intergovernmental Panel on Climate Change to prepare a technical paper on the interlinkages between biological diversity and climate change, as requested by the Subsidiary Body on Scientific, Technical and Technological Advice in its recommendation VI/7, as in input to the Convention's pilot assessment on biological diversity and climate change;

11. *Notes with appreciation* the consideration of the Convention's pilot assessment on biological diversity and climate change, and related cooperation, by the Subsidiary Body on Scientific and Technological Advice of the United Nations Framework Convention on Climate Change.

VII/3. ***Biological diversity of dry and sub-humid lands: progress report on the implementation of the programme of work***

The Subsidiary Body on Scientific, Technical and Technological Advice,

Taking note of the progress report of the Executive Secretary on the implementation of the programme of work on the biological diversity of dry and sub-humid lands (UNEP/CBD/SBSTTA/7/4),

Recognizing the urgency and importance of dealing with threats to the biological diversity of dry and sub-humid lands and noting the full geographic distribution of such ecosystems,

1. *Emphasizes* the importance of synergy between the secretariats of the Convention on Biological Diversity, the Convention to Combat Desertification, and the United Nations Convention on Climate Change, and other appropriate bodies such as the Convention on Wetlands, *encourages* the development of a mechanism to coordinate their activities, and *suggests* that national biodiversity strategies and action plans under the Convention on Biological Diversity and the national action programmes under the Convention to Combat Desertification be linked and integrated;

2. *Urges* the convening of the Ad Hoc Technical Expert Group on Dry and Sub-Humid Lands before the sixth meeting of the Conference of the Parties, and *notes* the need for resources to be made available;

3. *Requests* that the Ad Hoc Technical Expert Group should take into consideration the views expressed at the seventh meeting of the Subsidiary Body and, in particular, those relating to the importance of:

(a) The value of goods and services of the dry and sub-humid lands, and encourages preparation of case-studies on valuation of biodiversity of these environments;

(b) A balanced consideration of conservation, sustainable use and the equitable sharing of benefits in any set of recommendations;

(c) Capacity development, and the needs of some Parties for assistance in seeking resources to develop proposals;

(d) The important complementary role of *ex situ* conservation in implementing the programme of work;

(e) Indicators of biodiversity loss, as well as preventive measures, monitoring, and early warning systems;

4. *Requests* the Executive Secretary, in collaboration with the Convention to Combat Desertification, to disseminate through the clearing-house mechanism information on workshops, case-studies and pilot projects carried out in dry and sub-humid land ecosystems.

VII/4. *Progress in the development of practical principles, operational guidance and associated instruments on sustainable use*

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Takes note* of the progress report of the Executive Secretary on the on the development of practical principles, operational guidance and associated instruments for sustainable use (UNEP/CBD/SBSTTA/7/5);

2. *Notes with appreciation* the convening of the three regional workshops by the Executive Secretary to develop practical principles, operational guidance and associated instruments and *expresses its appreciation* for the financial support provided to that end by the Government of the Netherlands;

3. *Encourages* Parties to support the organization of an additional meeting to conclude the synthesis of the practical principles, operational guidance and associated instruments on the basis of the conclusions of these regional workshops;

4. *Urges* the implementation of activities in application of decision V/24 of the Conference of the Parties.

VII/5. *Sustainable tourism*

The Subsidiary Body on Scientific, Technical and Technological Advice

Recalling paragraph 6 of decision V/25 of the Conference of the Parties, which requests the Subsidiary Body on Scientific, Technical and Technological Advice to transmit its findings on sustainable tourism development through the Executive Secretary to the Commission on Sustainable Development at its tenth session,

Noting the results of the Workshop on Biological Diversity and Tourism held in Santo Domingo (UNEP/CBD/WS-Tourism/4 and UNEP/CBD/SBSTTA/7/5, annexes I and II) containing elements for guidelines for activities related to sustainable tourism development in vulnerable terrestrial, marine and coastal ecosystems and habitats of major importance for biological diversity and protected areas, including fragile riparian and mountain ecosystems,

Requests the Executive Secretary:

(a) To transmit the elements for guidelines on biological diversity and tourism contained in the annex to the report of the Workshop to the Commission on Sustainable Development serving as the Preparatory Committee for the World Summit on Sustainable Development for consideration at its second meeting, to be held in New York from 28 January to 8 February 2002;

(b) To invite the Commission on Sustainable Development to report back to the Conference of the Parties at its sixth meeting on the results of its second meeting serving as the Preparatory Committee for the World Summit on Sustainable Development;

(c) To submit the elements for guidelines to the preparatory process for the World Summit on Ecotourism to be held in Quebec City, in May 2002;

(d) To present these elements for the consideration of the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting prior to the seventh meeting of the Conference of the Parties;

(e) To organize an electronic consultation inviting further reactions to the text.

VII/6. *Forest biological diversity*

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Recommends* that the Conference of the Parties at its sixth meeting:

(a) *Welcomes* the report of the Ad Hoc Technical Expert Group on Forest Biological Diversity established by the Conference of the Parties at its fifth meeting (UNEP/CBD/SBSTTA/7/6), and takes note of the assessment of status and trends and major threats to forest biological diversity contained in the report;

(b) *Expresses its gratitude* to the Government of Canada and to the Government of the United Kingdom for their financial support to the work of the Ad Hoc Technical Expert Group on Forest Biological Diversity;

(c) *Expresses its gratitude* to the co-chairs, the experts and the Secretariat of the Convention on Biological Diversity for their work regarding the Ad Hoc Technical Expert Group on Forest Biological Diversity;

(d) *Adopts* an expanded programme of work on forest biological diversity that identifies priority setting, actors, timeframes and ways and means for implementation of the activities proposed, as well as indicators of progress supplemented by targets, using the elements contained in annex I to the present recommendation, and the work of the Executive Secretary described in paragraph 2 below;

(e) *Agrees*, recognizing the critical values of primary forests for the conservation of biodiversity and the current alarming rate of loss of such forests, to give priority in the programme of work to activities that could significantly contribute to their conservation;

(f) *Urges* Parties and other governments to incorporate relevant objectives and related activities of the programme of work into their national biodiversity strategies and action plans and national forest programmes;

(g) *Invites* Parties to foster cooperation and synergies with the United Nations Forum on Forests; in particular to ensure the role of the Secretariat of the Convention on Biological Diversity of focal/lead agency with respect to forest biodiversity issues within the Collaborative Partnership on Forests;

(h) *Invites* the United Nations Framework Convention on Climate Change, the Intergovernmental Panel on Climate Change, the International Geosphere-Biosphere Programme, in the context of its global change and terrestrial ecosystems global transect programme, and the Millennium Ecosystem Assessment to enhance collaboration in research and monitoring activities on forest biological diversity and climate change, and explore possibilities of establishing an international network to monitor and assess the impact of climate change on forest biological diversity;

(i) *Invites* the ad hoc technical expert group on the interlinkages between biological diversity and climate change to consider the report of the Ad Hoc Technical Expert Group on Forest Biological Diversity (and the note by the Executive Secretary on consideration of specific threats to forest biological diversity: (a) climate change; (b) human induced uncontrolled forest fires; and (c) harvesting of non-timber forest resources, including bushmeat and living botanical resources (UNEP/CBD/SBSTTA/7/7)), as well as the outcome of the seventh meeting of the Subsidiary Body on Scientific and Technical Advice with

respect to forest biological diversity, including the proposed elements for an expanded programme of work on forest biological diversity;

(j) *Requests* the Executive Secretary, on the basis of goal 4, objective 2, of programme element 1 for an expanded work programme on forest biological diversity, to establish a liaison group on non-timber forest resources, including members of the Collaborative Partnership on Forests, the secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and IUCN—The World Conservation Union. On the basis of the work of the liaison group, the Subsidiary Body will prepare recommendations on this matter for consideration by the Conference of the Parties at its seventh meeting;

(k) *Invites* members of the Collaborative Partnership on Forests and its network to explore possibilities for enhancing the integration of non-timber forest resources in the forest inventory and management, and to report on progress to the Subsidiary Body prior to the seventh meeting of the Conference of the Parties;

(l) *Invites* the Food and Agriculture Organization of the United Nations, the International Tropical Timber Organization and the Global Fire Monitoring Center, as well as other relevant organizations, to include forest biodiversity in their assessments of fire impacts; to explore possibilities for a joint work programme with the Convention on Biological Diversity, including, *inter alia*, fire impact assessments, development of guidelines on fire management, and community-based approaches to fire prevention and management; and to report on progress to the Subsidiary Body prior to the seventh meeting of the Conference of the Parties;

(m) *Encourages* the development of community-based approaches in the implementation of the programme of work, *inter alia*, for issues related to forest fires and non-timber forest resources;

(n) *Invites* Parties to undertake national level coordination of their work relating to forest biological diversity at an international level, particularly in respect of work relating to the Convention on Biological Diversity and the United Nations Forum on Forests;

[***Inter-sessional work***]

2. *Requests* the Executive Secretary, drawing upon the work of the Ad Hoc Technical Expert Group on Forest Biological Diversity and seeking comments from Parties, the Bureau and members of the Ad Hoc Technical Expert Group, to prepare a report for consideration by Conference of the Parties at its sixth meeting identifying:

(a) Elements in the work programme adopted by decision IV/7 of relevance to the expanded work programme, and how these may be incorporated in the expanded programme of work, also taking into account multi-year programme of work and plan of action of the United Nations Forum on Forests;

(b) Potential actors, a suggested timeframe and possible ways and means for implementation of the activities proposed, as well as indicators of progress in implementation, taking into account the potential for collaborative work with other bodies, in particular the United Nations Forum on Forests and the Collaborative Partnership on Forests;

3. *Requests* the Executive Secretary to invite Parties to submit their views and suggestions for potential priorities for the proposed expanded programme of work on forest biological diversity taking

into account the chapeau of the annex to the present recommendation to be incorporated into an information document and report to the Conference of the Parties at its sixth meeting for consideration;

4. *Welcomes* the offer by the Government of Ghana to host a workshop to explore opportunities for collaboration among the Convention on Biological Diversity, the United Nations Forum on Forests and the Collaborative Partnership on Forests;

5. *Takes note* of the technical experts meeting on harmonization of forest-related definitions, to be held in Rome in January 2002, under the aegis of the Food and Agriculture Organization of the United Nations, the United Nations Framework Convention on Climate Change, the Center for International Forestry Research, and other partners, and *requests* that the findings be presented to the Conference of the Parties at its sixth meeting.

Annex

ELEMENTS FOR AN EXPANDED WORK PROGRAMME ON FOREST BIOLOGICAL DIVERSITY

Chapeau

In undertaking this expanded programme of work, parties, governments, international and regional organizations and processes, civil society organizations and other relevant bodies and all relevant implementers shall take into account the following considerations:

(a) The need to focus on key priorities for sustainable use of forest resources and to ensure equitable sharing of benefits;

(b) The need to facilitate adequate participation of indigenous and local communities and the need to respect their rights and interests;

(c) The need to urgently prioritize biodiversity conservation efforts on the most endangered and environmentally-significant forest ecosystems and species, in particular primary forests;

(d) The need to achieve synergies and avoid duplications between the work of the key international bodies, such as the Convention on Biological Diversity, and the other members of the Collaborative Partnership on Forests;

(e) The need to ensure capacity building and the provision of adequate financial, human and technical resources to allow implementation of the work programme by all relevant stakeholders;

(f) The need to ensure that relevant activities be effectively incorporated into national and subnational forest and biological diversity strategies and programmes;

(g) The need for clarification of the links between the ecosystem approach and sustainable forest management.

PROGRAMME ELEMENT 1. CONSERVATION, SUSTAINABLE USE AND BENEFIT-SHARING

GOAL 1

To apply the ecosystem approach to the management of all types of forests

Objective 1

Develop practical methods, guidelines, indicators and strategies to apply the ecosystem approach adapted to regional differences to forests both inside and outside protected forest areas as well as both in managed and unmanaged forests.

Activities

(a) Clarify the conceptual basis of the ecosystem approach in relation to sustainable forest management.

(b) Develop guidance for applying the ecosystem approach in forest ecosystems.

(c) Identify key structural and functional ecosystem elements to be used as indicators for decision-making and develop decision–support tools on a hierarchy of scales.

(d) Develop and implement guidance to help the selection of suitable forest management practices for specific forest ecosystems.

(e) Develop and implement appropriate mechanisms for the participation of all stakeholders in ecosystem-level planning and management.

(f) Develop an informal international network of forest areas for piloting and demonstrating the ecosystem approach and exchange related information through the clearing-house mechanism.

(g) Hold workshops to train and familiarize decision makers and managers with the foundations, principles and modalities of the ecosystem approach.

(h) Promote research and pilot projects to develop understanding of the functional linkages between forest biological diversity and agriculture with the aim to developing practices that could improve the relations between forest management and other land use methods. Promote assessment of functional linkages between mining, infrastructure and other development projects and forest biodiversity, and develop best practice, guidelines for such development projects to mitigate adverse impacts on forest biodiversity.

(i) Promote activities that minimize the negative impacts of forest fragmentation on forest biodiversity, including afforestation, forest restoration, secondary forest and plantation management, and agroforestry, watershed management and land use planning aimed at providing a combination of economic and environmental goods and services to stakeholders.

GOAL 2

To reduce the threats and mitigate the impacts of threatening processes on forest biological diversity

Objective 1

Prevent the introduction of invasive alien species that threaten ecosystems, and mitigate their negative impacts on forest biological diversity in accordance with international law.

Activities

(a) Reinforce, develop and implement strategies at regional and national level to prevent and mitigate the impacts of invasive alien species that threaten ecosystems, including risk assessment, strengthening of quarantine regulation, and containment or eradication programmes taking into account the guidelines on invasive alien species if adopted at the sixth meeting of the Conference of the Parties.

(b) Improve the knowledge of the impacts of invasive alien species on forest ecosystems and adjacent ecosystems.

Objective 2

Mitigate the impact of pollution such as acidification and eutrophication on forest biodiversity

Activities

(a) Increase the understanding of the impact of pollution, e.g., acidification and eutrophication, and other pollutants (such as mercury and cyanide) on forest biodiversity; at genetic, species, ecosystem and landscape levels.

(b) Support monitoring programmes that help evaluate the impacts of air, soil and water pollution on forest ecosystems, and address the impacts of changing environmental conditions on forest ecosystems.

(c) Encourage the integration of forest biodiversity consideration into strategies and policies to reduce pollution.

(d) To promote the reduction of pollution levels that adversely affect forest biodiversity and encourage forest management techniques that reduce the impacts of changing environmental conditions on forest ecosystems.

Objective 3

Mitigate the negative impacts of climate change on forest biodiversity

Activities

Taking into account the work of the Ad Hoc Technical Expert Group on Climate Change and Biodiversity:

(a) Promote monitoring and research on the impacts of climate change on forest biological diversity and investigate the interface between forest components and the atmosphere;

(b) Develop coordinated response strategies and action plans at global, regional and national levels;

(c) Promote the maintenance and restoration of biodiversity in forests in order to enhance their capacity to resist to, and recover from and adapt to climate change;

(d) Promote forest biodiversity conservation and restoration in climate change mitigation and adaptation measures;

(e) Assess how the conservation and sustainable use of forest biological diversity can contribute to the international work relating to climate change.

Objective 4

To prevent and mitigate the adverse effects of forest fires and fire suppression

Activities

(a) Identify policies, practices and measures aimed at addressing the causes and reducing impacts on forest biological diversity resulting from human-induced uncontrolled/unwanted fires, often associated with land clearing and other land use activities.

(b) Promote understanding of the role of human-induced fires on forest ecosystems and on species, and of the underlying causes.

(c) Develop and promote the use of fire management tools for maintaining and enhancing forest biological diversity, especially when there has been a shift in fire regimes.

(d) To promote practices of fire prevention and control to mitigate the impacts of unwanted fires on forest biological diversity.

(e) Promote development of systems for risk assessment and early warning, monitoring and control, and enhance capacity for prevention and post-fire forest biodiversity restoration at the community, national and regional levels.

(f) To advise on fire-risk prediction systems, surveillance, public education and other methods to minimise human-induced uncontrolled/unwanted fires.

(g) Develop strategies to avoid the negative effects of sectoral programmes and policies which could induce uncontrolled forest fires.

(h) Develop prevention plans against devastating fires and integrate them into national plans targeting the biological diversity of forests.

(i) Develop mechanisms, including early warning systems, for exchange of information related to the causes of forest biodiversity loss, including fires, pests and diseases, and invasive species.

Objective 5

To mitigate effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur.

Activities

(a) Develop and promote management methods that restore or mimic natural disturbances such as fire, wind-throw and floods.

Objective 6

To prevent and mitigate losses due to fragmentation and conversion to other land uses

Activities

(a) Encourage the creation of private reserves and private conservation methods where appropriate, respecting the rights and interests of indigenous and local communities.

(b) Establish ecological corridors on a national and regional basis.

(c) Promote cost-benefit analysis of development projects that might lead to the conversion of forest into other land uses incorporating the impacts on forest biological diversity.

(d) Implement policies, practices and measures aimed at addressing the causes and reducing impacts on forest biological diversity resulting from human-induced uncontrolled clearing or other uncontrolled land-use activities

GOAL 3

To protect, recover and restore forest biological diversity

Objective 1

Restore forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes, including in plantations.

Activities

(a) Promote the implementation of systems and practices for restoration in accordance with the ecosystem approach

(b) Promote restoration of forest biological diversity with the aim to restore ecosystem services.

(c) Create and improve where appropriate international, regional and national databases and case-studies on the status of degraded forests, deforested, restored and afforested lands.

Objective 2

Promote forest management practices that further the conservation of endemic and threatened species.

Activities

(a) Determine status and conservation needs of endemic or threatened species and the impacts of current forest management practices on these species.

(b) Develop and implement conservation strategies for endemic and threatened species for global or regional application, and practical systems of adaptive management at national level.

Objective 3

Ensure adequate and effective protected forest area networks.

Activities

(a) Assess the comprehensiveness, representativeness and adequacy of protected areas relative to forest types and identify gaps and weaknesses.

(b) Establish (in accordance with Article 8(j)) with the full participation and with respect for the rights of indigenous and local communities, and other relevant stakeholders, comprehensive, adequate, biologically and geographically representative and effective networks of protected areas.

(c) Establish, in a similar manner, restoration areas to complement the network of protected areas where needed.

(d) Revise in a similar manner and ensure the comprehensiveness, adequacy, representativeness and efficacy of existing protected area networks.

(e) Assess the efficacy of protected forest areas for the conservation of biological diversity.

(f) Ensure that relevant protected areas are managed to maintain and enhance their forest biodiversity components, services and values;

GOAL 4

To promote the sustainable use of forest biological diversity

Objective 1

Promote sustainable use of forest resources to enhance the conservation of forest biological diversity

Activities

(a) Support activities of indigenous and local communities involving the use of traditional forest-related knowledge in biodiversity management.

(b) Develop, support and promote programmes and initiatives that address the sustainable use of timber and non-timber forest products.

(c) Support regional cooperation and work on sustainable use of timber and non-timber forest products and services, including through technology transfer and capacity building within and between regions.

(d) Improve forest management and planning practices that incorporate socio-economic and cultural values to support and facilitate sustainable use.

(e) Promote cooperative work on the sustainable use of forest products and services and its relation to biodiversity conservation with the other members of the Collaborative Partnership on Forests.

(f) Encourage implementation of voluntary third-party credible forest certification schemes that take into consideration relevant forest biodiversity criteria and that would be audited, taking into consideration indigenous and local community rights and interests.

(g) Set up demonstration sites that would illustrate forest conservation and on-ground delivery of goods and services through sustainable forest management, which are also representative of various types of forest, themes and regional needs, through case-studies.

(h) Facilitate and support a responsible private sector committed to sustainable harvesting practices and compliance with domestic laws through effective development and enforcement of laws on sustainable harvesting of timber and non-timber resources.

Objective 2

Prevent losses caused by unsustainable harvesting of timber and non-timber forest resources.

Activities

(a) Establish a liaison group with an associated workshop to facilitate development of a joint work plan with relevant members of the Collaborative Partnership on Forests to bring harvesting of non-timber forest products (NTFP)s, with a particular focus on bush meat, to sustainable levels. This group should have a proportionate regional representation, giving special consideration to sub-regions where bush meat is a major issue and representation of relevant organizations such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The mandate of this group is to:

(i) Consult in a participatory manner with key stakeholders to identify and prioritize major issues pertaining the unsustainable harvesting of non-timber forest products, particularly of bushmeat and related products;

(ii) Provide advice on the development of policies, enabling legislation and strategies that promote sustainable use of, and trade in, non-timber forest products, particularly bushmeat and related products;

(iii) Provide advice on appropriate alternative sustainable livelihood technologies and practices for the affected communities;

(iv) Provide advice on appropriate monitoring tools.

(b) Promote projects and activities that encourage the use and supply of alternative sources of energy to prevent forest degradation due to the use of firewood by local communities.

(c) Develop any necessary legislation for the sustainable management and harvesting of non-timber forest resources.

(d) Solicit input from Parties, other countries and relevant organizations on ways and means to encourage and assist importing countries to prevent the entry of illegally harvested forest resources, which are not covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and consider this information as a basis for further steps on this issue.

Objective 3

Enable indigenous and local communities to develop and implement adaptive community-management systems to conserve and sustainably use forest biological diversity.

Activities

Taking into account the outcome of the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity:

(a) Strengthen the capacity of, and provide incentives for, indigenous and local communities to generate opportunities for sustainable use of forest biodiversity and for access to markets;

(b) Strengthen the capacity of indigenous and local communities to resolve land rights and land use disputes in order to sustainably manage forest biodiversity;

(c) Encourage the conservation and sustainable use of forest biological diversity by indigenous and local communities through their development of adaptive management practices, using as appropriate traditional forest-related knowledge;

(d) Provide incentives for the maintenance of cultural diversity as an instrument to enhance forest biological diversity;

(e) Develop and implement education and awareness programmes on traditional uses of forest biological diversity in accordance with Article 8(j);

(f) Create an environment that fosters respect, and stimulates, preserves and maintains traditional knowledge related to forest biological diversity, innovations and practices of indigenous and local communities.

Objective 4

Develop effective and equitable information systems and strategies and promote implementation of those strategies for *in situ* and *ex situ* conservation and sustainable use of forest genetic diversity, and support countries in their implementation and monitoring.

Activities

(a) Develop, harmonize and assess the diversity of forest genetic resources, taking into consideration the identification of key functional/keystone species populations, model species and genetic variability at the deoxyribonucleic acid (DNA) level.

(b) Select, at a national level, the most threatened forest ecosystems based on the genetic diversity of their priority species and populations and develop an appropriate action plan in order to protect the genetic resources of the most threatened forest ecosystems.

(c) Improve understanding of patterns of genetic diversity and its conservation *in situ*, in relation to forest management, landscape-scale forest change and climate variations.

(d) Provide guidance for countries to assess the state of their forest genetic resources, and to develop and evaluate strategies for their conservation, both in situ and ex situ.

(e) Develop national legislative, administrative policy measures on access and benefit-sharing on forest genetic resources, taking into account the provisions under Articles 8(j), 10(c), 15, 16 and 19 of the Convention on Biological Diversity and in conformity with future decisions of the Conference of the Parties, as appropriate.

(f) Monitor developments in new biotechnologies and ensure their applications are compatible with the objectives of the Convention on Biological Diversity with respect to forest biological diversity, and develop and enforce regulations for controlling the use of genetically modified organisms (GMOs) when appropriate.

(g) Develop a holistic framework for the conservation and management of forest genetic resources at national, sub-regional and global levels.

(h) Implement activities to ensure adequate and representative in situ conservation of the genetic diversity of endangered, overexploited and narrow endemic forest species and complement the *in situ* conservation with adequate *ex situ* conservation of the genetic diversity of endangered, overexploited and narrow endemic species and species of economic potential.

GOAL 5

Access and benefit sharing of forest genetic resources

Objective 1

Promote the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge

Activities

Based on the draft Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, if approved by the Conference of the Parties at its sixth meeting:

(a) Establish mechanisms to facilitate the sharing of benefits at local, national, regional and global levels.

(b) Strengthen capacity of indigenous and local communities to negotiate benefit-sharing arrangements.

(c) Promote dissemination of information about benefit sharing experiences through the clearing-house mechanism and appropriate means at the local level.

PROGRAMME ELEMENT 2: INSTITUTIONAL AND SOCIO-ECONOMIC ENABLING ENVIRONMENT

GOAL 1

Enhance the institutional enabling environment.

Objective 1

Improve the understanding of the various causes of forest biological diversity losses

Activities

(a) Each Party to carry out, in a transparent and participatory way, thorough analysis of local, regional, national and global direct and underlying causes of losses of forest biological diversity. A distinction should be made between broad socio-economic causes such as demographic growth and more specific causes such as institutional weaknesses and market or policy failures.

(b) Each Party on the basis of the above analysis to implement their recommendations.

(c) Parties to report through the clearing-house mechanism of the Secretariat on successful experiences involving control and mitigation of the underlying causes of deforestation, which would make it possible to understand lessons learned.

Objective 2

Parties, Governments and organizations to integrate biological diversity conservation and sustainable use into forest and other sector policies and programmes.

Activities:

(a) Parties to formulate appropriate policies and adopt sets of priority targets for forest biological diversity to be integrated into national forest programmes, national sustainable development strategies, poverty reduction strategy papers, related non-forest programmes and national biological diversity strategies and action plans. Ensure that there is coherence and direct interaction between the different programmes.

(b) Seek ways of streamlining reporting between the different forest-related processes, in order to improve the understanding of forest quality change and improve consistency in reporting on sustainable forest management.

(c) Develop a set of indicators that might be used in assessing progress in implementing the national biodiversity strategies and action plans and relevant work programmes;

(d) Donor bodies and other financial institutions to incorporate forest biological diversity and sustainable use principles and targets into forest and related programmes, including watershed management, land-use planning, energy, transport, infrastructure development, education and agriculture, mineral exploitation, and tourism.

(e) Seek to harmonize policies at regional and subregional levels in the area of forest biological diversity.

(f) Develop strategies for effective enforcement of sustainable forest management and protected area regulations, including adequate resourcing and involvement of indigenous and local communities.

(g) Parties and donor bodies to develop and implement, strategies, in particular national financing strategies in the framework of national biodiversity strategies and action plans and national forest programmes, and provide adequate financial, human and technical resources.

(h) Encourage the Executive Secretary to coordinate and seek synergies between Convention on Biological Diversity, the United Nations Forum on Forests and the members of the Collaborative Partnership on Forests, including establishment of memoranda of understanding, as appropriate, between the Convention on Biological Diversity and the other members of the Collaborative Partnership on Forests, and recommend such an memorandum of understanding with the International Tropical Timber Organization and the United Nations Framework Convention on Climate Change as a first step.

(i) Increase emphasis on capacity-building, research and training, public education and awareness, access to and transfer of information and technology, technical and scientific cooperation, with focus on capacities required to address forest biodiversity-related issues.

Objective 3

Parties and Governments to develop good governance practices, review and revise and implement forest and forest-related laws, tenure and planning systems, to provide a sound basis for conservation and sustainable use of forest biological diversity.

Activities:

(a) Develop appropriate measures and regulations to secure a permanent forest area sufficient to allow for the conservation and sustainable use of forest biological diversity.

(b) Seek to resolve land tenure and resource rights and responsibility, in consultation with all relevant stakeholders including for local and indigenous communities, in order to promote the conservation and sustainable use of forest biodiversity.

(c) Encourage Parties and countries to ensure that forest and forest-related laws adequately and equitably incorporate the provisions of the Convention on Biological Diversity and the decisions of the Conference of the Parties.

(d) Implement effective measures to protect traditional knowledge and values in forest laws and planning tools.

(e) Develop legislation, administrative or policy measures on access and benefit-sharing for forest genetic resources, taking into account the draft Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.

(f) Invite Parties, Governments and other relevant organizations to submit case-studies and research on the role of performance bonds in forest concessions, in the conservation and sustainable use of forest biological diversity; and request the Secretariat to make these available.

(g) Parties, Governments and relevant stakeholders to develop mechanisms and processes to work toward good governance to promote conservation and sustainable use of forest biological diversity.

(h) Develop and apply environmental and socio-economic impact assessment methods as appropriate prior to land-conversion decisions.

Objective 4

Combat illegal logging, illegal exploitation of non-timber forest products, illegal exploitation of genetic resources, and related trade.

Activities:

(a) Invite Parties, Governments and relevant organizations to provide information on a voluntary basis to enable a better comprehension of the effects of illegal logging, exploitation of other forest resources and associated trade, as well as on the underlying causes, on forest biological diversity. On the basis of dissemination of this information countries may decide to take relevant measures such as enforcement actions.

(b) Evaluate and reform, as required, legislation to include clear definition of illegal activities and to establish effective deterrents.

(c) Develop methods and build capacity for effective law enforcement.

(d) Develop codes of conduct for sustainable forest practices in logging companies and the wood-processing sector to improve biodiversity conservation.

(e) Encourage and support the development and implementation of tracking and chain-of-custody systems for forest products to seek to ensure that these products are legally harvested.

(f) Invite governments and relevant organizations to develop and forward to the Secretariat case-studies and research on the impacts of illegal exploitation and trade in timber and non-timber forest products.

GOAL 2

Address socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity.

Objective 1

Mitigate the economic failures and distortions that lead to decisions that result in loss of forest biological diversity.

Activities

(a) Develop mechanisms to ensure that monetary and non-monetary costs and benefits of forest biodiversity management are equitably shared between stakeholders at all levels.

(b) Develop, test and disseminate methods for valuing forest biological diversity and other forest ecosystem goods and services and for incorporating these values into forest planning and management, including through stakeholder analysis and mechanisms for transferring costs and benefits.

(c) Incorporate forest biological diversity and other forest values into national accounting systems and seek to estimate such figures for subsistence economies.

(d) Elaborate and implement economic incentives promoting forest biological diversity conservation and sustainable use.

(e) Eliminate or reform perverse incentives, in particular subsidies that result in favouring unsustainable use or loss of forest biological diversity.

(f) Provide market and other incentives for the use of sustainable practices, develop alternative sustainable income generation programmes and facilitate self-sufficiency programmes of indigenous and local communities.

(g) Develop and disseminate analyses of the compatibility of current and predicted production and consumption patterns with respect to the limits of forest ecosystem functions and production.

(h) Seek to promote national laws and policies and international trade regulations are compatible with conservation and sustainable use of forest biological diversity.

(i) Increase knowledge on monetary and non-monetary cost-benefit accounting for forest biodiversity evaluation.

GOAL 3

Increase public education, participation, and awareness.

Objective 1

Increase public support and understanding of the value of forest biological diversity and its goods and services at all levels.

Activities

(a) Increase broad-based awareness of the value of forest biological diversity through international, national and local public awareness campaigns.

(b) Promote consumer awareness about sustainably produced forest products.

(c) Increase awareness amongst all stakeholders of the potential contribution of traditional forest-related knowledge to conservation and sustainable use of forest biological diversity.

(d) Develop awareness of the impact of forest-related production and consumption patterns on the loss of forest biological diversity and the goods and services it provides.

(e) Increase awareness of the value of forest biological diversity amongst public authorities and decision makers through specific information and training actions.

(f) Implement effective measures to recognize, respect, protect and maintain traditional forest-related knowledge and values in forest-related laws and forest planning tools, in accordance with Article 8(j) and related provisions of the Convention on Biological Diversity.

(g) Develop awareness of the value of forest biological diversity among forestry workers, owners of forest land, logging contractors, and consulting firms.

PROGRAMME ELEMENT 3: KNOWLEDGE, ASSESSMENT AND MONITORING

GOAL 1

To characterize and to analyse from forest ecosystem to global scale and develop general classification of forests on various scales in order to improve the assessment of status and trends of forest biological diversity.

Objective 1

Review and adopt a harmonized global to regional forest classification system, based on harmonized and accepted forest definitions and addressing key forest biological diversity elements.

Activities

(a) Review and adopt a minimum forest classification for forest types, compatible with remote sensing technologies, that includes broad indicators of biodiversity that can be taken into account in all international and regional forest-related programmes, plans and activities.

(b) Adapt frequency of forest resource inventory at regional and global scales, where resources permit, preferably at least to every ten years.

(c) Review and contribute (from the biodiversity point of view) to standard forest definitions in cooperation with the United Nations Forum on Forests and the Collaborative Partnership on Forests to be used in global and regional reporting to the scale of forest types.

Objective 2

Develop national forest classification systems and maps (using agreed international standards and protocols to enable regional and global synthesis).

Activities

(a) Review existing national forest ecosystem classification systems and maps.

(b) Develop and apply national forest ecosystem classification systems and maps that include key components of forest biological diversity to be used in assessment reports on forest types including socio-economic and cultural aspects.

(c) Use adapted technology, for example geographic information system, to develop a baseline for assessing levels of deforestation and impacts on biodiversity.

Objective 3

To develop, where appropriate, specific forest ecosystems surveys in priority areas for conservation and sustainable use of forest biodiversity.

Activities

(a) To identify and prioritize relevant areas to carry out these surveys.

GOAL 2

Improve knowledge on and methods for the assessment of the status and trends of forest biological diversity, based on available information.

Objective 1

Advance the development and implementation of international, regional and national criteria and indicators based on key regional, subregional and national measures within the framework of sustainable forest management.

Activities

(a) Advance the development and implementation of international, regional and national criteria and indicators based on key measures within the framework of sustainable forest management.

(b) Develop and select international, regional and national criteria and where appropriate quantifiable, indicators for forest biological diversity, taking into account, as appropriate, existing work and processes on criteria and indicators on sustainable forest management, as well as the knowledge held by indigenous and local communities. Such criteria and indicators should be used for assessment reporting at least 10-year intervals.

GOAL 3

Improve understanding of the role of forest biodiversity and ecosystem functioning.

Objective 1

Conduct key research programmes on the role of forest biodiversity and ecosystem functioning.

Activities

(a) Develop and support focused research to improve understanding of the relationship between forest biological diversity and ecosystem functioning, taking into account forest ecosystem components, structure, functions and processes to improve predictive capability.

(b) Develop and support research to understand critical thresholds of forest biological diversity loss and change, paying particular attention to endemic and threatened species and habitats including forest canopies.

(c) Develop and apply forest ecosystem restoration techniques to address biodiversity loss at the ecosystem level.

(d) Develop and support research on impact of current forest management practices for forest biodiversity within forests and on adjacent land.

GOAL 4

Improve the infrastructure for data and information management for accurate assessment and monitoring of global forest biological diversity.

Objective 1

Enhance and improve the technical capacity at the national level to monitor forest biological diversity, benefiting from the opportunities offered through the clearing-house mechanism, and to develop associated databases as required on a global scale.

Activities

(a) Develop and implement a strategy and a plan of action and facilitate transfer of technology to provide infrastructure and training in developing countries, in order to monitor forest biological diversity and develop associated databases.

VII/7. *Agricultural biodiversity*

The Subsidiary Body on Scientific, Technical and Technological Advice

[*Implementation of the programme of work*]

1. *Welcomes* the progress made in the implementation of the programme of work, and the contribution of the Food and Agriculture Organization of the United Nations and other organizations;

2. *Congratulates* the United Nations University, the International Plant Genetic Resources Institute, and the Secretariat of the Convention on Biological Diversity on the organization of the Symposium on Managing Biodiversity in Agricultural Ecosystem, held in Montreal from 8 to 10 November 2001;

3. *Recommends* that the Conference of the Parties, at its sixth meeting:

(a) *Notes* the progress made in the implementation of the programme of work and the need for emphasis and further action, within the context of the programme of work, on:

(i) The wider understanding of the functions of biodiversity in agro-ecosystems, and the interactions between its various components, at different spatial scales;

(ii) The promotion of methods of sustainable agriculture that employ management practices, technologies and policies that promote the positive and prevent or mitigate the negative impacts of agriculture on biodiversity, focusing on the needs of farmers and indigenous and local communities, to participate efficiently in the process of meetings those particular goals;

(iii) Capacity-building in institutions, human resource development, training, communication, education and public awareness. Moreover, funding for the implementation of the programme of work should be reviewed, in the context of decision V/5 of the Conference of the Parties; and

(iv) Mainstreaming;

(b) *Adopts* the proposed steps for the further implementation of the programme of work by the Executive Secretary and partner organizations and the reporting schedule contained in annex I to the present recommendation;

(c) *Invites* Parties, other Governments, and relevant organizations to submit case-studies on their experiences with mainstreaming matters related to agricultural biodiversity in their plans, programmes and strategies, to be made available through the clearing house mechanism;

(d) *Considers* establishing an International Initiative for the Conservation and Sustainable Use of Soil Biodiversity as a cross-cutting initiative within the programme of work on agricultural biodiversity, taking into account case-studies which may cover the full range of ecosystem services provided by soil biodiversity and associated socio-economic factors, as provided for in programme element 2 of the programme of work, and, inviting the Food and Agriculture Organization of the United Nations, and other relevant organizations, to facilitate and coordinate this initiative;

(e) *Invites* Parties and Governments to provide, one-time thematic reports on the implementation of the programme of work on agricultural biodiversity, prior to the seventh meeting of the Conference of the Parties;

(f) *Adopts* a format for the thematic report on agricultural biodiversity, on the basis of a proposal to be prepared by the Executive Secretary, in consultation with the Bureau of Subsidiary Body on Scientific, Technical and Technological Advice, containing an approach that is simple and straightforward to use;

(g) *Requests* the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations, to prepare, in time for consideration by the Conference of the Parties at its the seventh meeting, syntheses of relevant studies and an analysis of gaps and opportunities in the implementation of the programme of work, drawing upon the national thematic reports referred to in subparagraph (e) above, as well as information provided by relevant organizations;

(h) *Continues* to encourage Parties and Governments to support the application of the Executive Secretary of the Convention on Biological Diversity for observer status in the Committee on Agriculture of the World Trade Organization, in line with paragraph 9 of decision IV/6 and paragraph 14 of decision V/5, of the Conference of Parties;

[*The International Pollinators Initiative*]

Recalling section II of decision V/5 of the Conference of the Parties,

4. *Recommends* that the Conference of the Parties, at its sixth meeting:

(a) *Adopts*, and periodically reviews, as appropriate, the plan of action for the International Initiative for the Conservation and Sustainable Use of Pollinators on the basis of annex II to the present recommendation;

(b) *Welcomes* the leading role played by the Food and Agriculture Organization in facilitating and coordinating this Initiative;

(c) *Welcomes* efforts to establish the African Pollinators Initiative, in the framework of the International Pollinators Initiative;

(d) *Invites* Parties and other Governments, and relevant organizations to contribute to the implementation of the International Pollinators Initiative;

(e) *Considers* the need for financial resources to enable countries to participate fully in the International Pollinators Initiative;

[*Animal Genetic Resources*]

Considering the importance of animal genetic resources for sustainable agriculture and food security, the serious erosion of these resources, and the need for measures for their conservation and sustainable use,

5. *Recommends* that the Conference of the Parties, at its sixth meeting:

(a) *Welcomes* the process initiated by the Food and Agriculture Organization of the United Nations for the preparation of the first Report on the State of World's Animal Genetic Resources, as a contribution to the Convention's programme of work on agricultural biodiversity, as adopted by decision V/5;

(b) *Encourages* Parties to participate in the development of the first Report on the State of World's Animal Genetic Resources, in particular through the preparation of country reports;

(c) *Underlines* the need for countries to be able to participate fully in the preparatory process for the first report on the state of world's animal genetic resources, and implement follow-up actions identified through the process;

[*The International Treaty on Plant Genetic Resources for Food and Agriculture*]

Recalling resolution 3 of the Nairobi Conference for the Adoption of the Agreed Text of the Convention on Biological Diversity, which recognized the need to seek solutions to outstanding matters concerning plant genetic resources within the Global System for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Sustainable Agriculture, in particular, on access to *ex situ* collections not addressed by the Convention on Biological Diversity, and the question of Farmers' Rights,

Recalling resolution 7/93 of the twenty-seventh session of the Conference of the Food and Agriculture Organization of the United Nations, which called for negotiations, through its Commission on Genetic Resources for Food and Agriculture, to revise the International Undertaking on Plant Genetic Resources in harmony with the Convention on Biological Diversity,

Recalling also decision II/15 of the Conference of the Parties, which recognized the special nature of agricultural biodiversity, its distinctive features and problems needing distinctive solutions, and declared its support for process engaged in the Commission on Genetic Resources for Food and Agriculture, for the adaptation of the International Undertaking on Plant Genetic Resources in harmony with the Convention of Biological Diversity,

Further recalling decision V/26 A of the Conference of the Parties, which states that the International Undertaking, once revised, was envisaged to play a crucial role in the implementation of the Convention, and affirms the willingness of the Conference of the Parties to consider a decision by the Conference of the Food and Agriculture Organization of the United Nations that the International Undertaking become a legally binding instrument with strong links to both the Food and Agriculture Organization of the United Nations and the Convention,

6. *Notes with satisfaction* the adoption, by the Conference of the Food and Agriculture Organization of the United Nations on 3 November 2001, of the International Treaty on Plant Genetic Resources for Food and Agriculture, as a legally binding instrument;

7. *Recommends* that the Conference of the Parties, at its sixth meeting:

(a) *Congratulates* the Food and Agriculture Organization of the United Nations and its Commission on Genetic Resources for Food and Agriculture, where the International Treaty on Plant Genetic Resources for Food and Agriculture was negotiated, on successfully completing this important process;

(b) *Recognizes* the important role that the International Treaty on Plant Genetic Resources for Food and Agriculture will have, in harmony with the Convention, for the conservation and sustainable

utilization of this important component of agricultural biological diversity, for facilitated access to plant genetic resources for food and agriculture, and for the fair and equitable sharing of the benefits arising out of their utilization;

(c) *Appeals* to States to give priority consideration to the signature and ratification of the International Treaty on Plant Genetic Resources for Food and Agriculture, so that it may enter expeditiously into force;

(d) *Establishes and maintains* cooperation with the Commission on Genetic Resources for Food and Agriculture acting as the Interim Committee for the International Treaty on Plant Genetic Resources for Food and Agriculture, and, upon the entry into force of the Treaty, with the Governing Body;

(e) *Requests* the Executive Secretary to develop cooperation with the Secretariat of the Commission on Genetic Resources for Food and Agriculture acting as the Interim Committee for the International Treaty on Plant Genetic Resources for Food and Agriculture and, upon its establishment, with the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture;

(f) *Requests* the Executive Secretary to convey this decision to the Commission on Genetic Resources for Food and Agriculture acting as the Interim Committee for the International Treaty on Plant Genetic Resources for Food and Agriculture.

Annex I

Table 1: Proposed steps for the further implementation of the programme of work by the Executive Secretary and partner organizations

	Programme element and activity	Expected outputs		Actors and partners	Status	Milestones	
1	**Assessments**						
1		Comprehensive assessment of the status and trends of the agricultural biodiversity	2007	SCBD, FAO, MA	Planned	Preliminary assessment Draft full assessment	2003 2005
1.1	Planned assessments	State of the world's plant genetic resources II	2007	FAO (CGRFA)	Planned	Thematic supplements Country inputs Full draft Report	2003 2004 2006
		State of the world's animal genetic resources	2005	FAO (CGRFA)	In progress	Country Reports Strategic priorities report	2003 2003
1.2	Specific assessments	Status and trends of pollinator diversity	2003		Planned		
1.3	Knowledge, innovations & practices of farmers, indigenous & local communities	State of the world's traditional knowledge on biodiversity	2003	CBD- Article 8(j) process	Planned	Outline of report	2002
1.4	Interactions between agriculture and biodiversity	Component of the Millennium Assessment	2005	Millennium Assessment	In progress	PAGE: Agro-ecosystems	2000
1.5	Methods: Indicators	Agri-environmental indicators	2004	OECD	In progress	First report Workshop: habitat matrices	2001 2001
		Genetic diversity/erosion	2004	FAO (CGRFA)	Planned	Draft indicators Field tested indicators	2002 2004
		Agricultural biodiversity	2004	FAO, MA	Planned	Technical workshop	2002
	Agreed terminology and classification for production environments		2004	FAO, MA	Planned	Compilation of existing Classification for MA	2002 2003
2	**Adaptive management**						
2.1	Case-studies	Plant genetic resources, animal genetic resources, soil, pollinators	2001	Various	In progress		
		Other aspects	2002	Various	Planned		
2.2	Analysis	Information on cost effective practices and technologies	2003	SCBD, FAO	In progress		
		Study on trade liberalization [marketing and trade policies]	2002	SCBD, FAO, WTO	In progress		
		Study on GURTs	2003	FAO, SCBD	In progress		
2.3	Promotion	lessons learned from the case-studies	2004	Various	Planned		

	Programme element and activity	Expected outputs		Actors and partners	Status	Milestones	
3	**Capacity building**						
3.1	Partnerships and forums	Documentation of successful cases	2002	SCBD, FAO, etc	Planned		
3.2	Enhanced capacity	Pilot projects for the application of lessons learned from programme element 2	2005	Various, including Parties, civil-society organizations, funding agencies	Proposed		
3.3	Participation of farmers, indigenous and local communities in national strategies	In-country multi-stakeholder workshops	2005	Parties, SCBD	Proposed		
3.4	Policy change, benefit-sharing and incentive measures	Identification of lessons learned from programme element 2	2003	Parties, SCBD	Proposed		
3.5	Awareness amongst producer organizations and consumers	Dialogue workshops with producer and consumer organizations	2005	Parties, SCBD	Proposed		
3.6	Networks	Five regional workshops	2003	Parties, SCBD	Proposed		
4	**Mainstreaming**						
4.1	Institutional framework	Best practice guidelines	2001	BSBP	Completed		
		Analysis of case-studies on mainstreaming	2003	SCBD	Planned		
4.2	Information systems	Development of the clearing-house mechanism		SCBD, Parties	Ongoing		
4.3	Public awareness	UNESCO-CBD programme		UNESCO-CBD	Ongoing		
4.4	Conservation of genetic resources	Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture		FAO	Ongoing	Reports to FAO CGRFA	2002 2004 2006

Table 2: Reporting schedule

Year	Meeting	Consideration of assessment results, studies and recommendations	Review of implementation by Parties
2002	COP-6	- Study on trade liberalization - Study on GURTs	- Considers second national reports
2003	SBSTTA-8/9	- Analysis of lessons learned from case-studies - Preliminary assessment of status and trends of agricultural biodiversity	(Interim national reports on agricultural biodiversity due)
2004	COP-7	- Recommendations from SBSTTA on capacity-building and policy	-Considers interim national reports on agricultural biodiversity
2005	SBSTTA-10/11	- Draft comprehensive assessment of status and trends of agricultural biodiversity	(Third national reports due)
2006	COP-8		- Considers third national reports

Annex II

THE INTERNATIONAL INITIATIVE FOR THE CONSERVATION AND SUSTAINABLE USE OF POLLINATORS PLAN OF ACTION

I. CONTEXT

1. Pollination is an essential ecosystem service that depends to a large extent on symbiosis between species, the pollinated and the pollinator. In many cases, it is the result of intricate relationships between plant and animal, and the reduction and loss of either will affect the survival of both parties. Not all plants depend on animals for pollination. Many plants are wind pollinated, like grasses which form the predominant ground-cover of many ecosystems. Similarly, in agriculture most staple foods are wind pollinated. However, at least one-third of the world's agricultural crops depends upon pollination provided by insects and other animals. Diversity among species, including agricultural crops, depends on animal pollination. Therefore pollinators are essential for diversity in diet and for the maintenance of natural resources. The assumption that pollination is a "free ecological service" is erroneous. It requires resources, such as refuges of natural vegetation. Where these are reduced or lost they become limiting and adaptive management practices are required to sustain livelihoods.

2. In fact, throughout the world, agricultural production and agro-ecosystem diversity are threatened by declining populations of pollinators. The major contributors to this decline in pollinator populations are, *inter alia*, habitat fragmentation, agricultural and industrial chemicals, parasites and diseases, and the introduction of alien species.

3. There are over 25,000 different species of bees, which differ tremendously in size, and a diverse range of plants that they visit and pollinate. Both the diversity of wild plants and the variability of food crops depend on this diversity. Though bees form the most important group of pollinators, other insects such as, butterflies and moths, flies and beetles, and vertebrates such as bats, squirrels, birds and some primates, also contribute. Some plants are visited by many different pollinators, while others have specific requirements. The same applies to the pollinators, some being generalists and others specialists. Therefore, pollination as a science requires detailed investigation, and the technological application of management practices is intricate. In most cases, there is a lack of knowledge about the exact relations between individual plant species and their pollinators, but studies in this field demonstrate that they are often quite specific.

4. In order to secure sustained pollinator services associated with agricultural ecosystems, far more understanding is needed of the multiple goods and services provided by pollinator diversity and the factors that influence their decline and activity. It is necessary to identify adaptive management practices that minimise negative impacts by humans on pollinators, promote the conservation and diversity of native pollinators, and conserve and restore natural areas necessary to optimize pollinator services in agricultural and other terrestrial ecosystems.

5. Considering the urgent need to address the issue of worldwide decline of pollinator diversity, the Conference of the Parties to the Convention Biological Diversity established an International Initiative for the Conservation and Sustainable Use of Pollinators in 2000 (decision V/5, section II) and requested the development of a plan of action. The following proposal for a plan of action was prepared by the Food and Agriculture Organization of the United Nations (FAO), consistent with paragraph 16 of decision V/15.

II. OBJECTIVES AND APPROACH

6. The aim of the International Initiative for the Conservation and Sustainable Use of Pollinators is to promote coordinated action worldwide to:

(a) Monitor pollinator decline, its causes and its impact on pollination services;

(b) Address the lack of taxonomic information on pollinators;

(c) Assess the economic value of pollination and the economic impact of the decline of pollination services; and

(d) Promote the conservation and the restoration and sustainable use of pollinator diversity in agriculture and related ecosystems.

7. The Initiative is to be implemented as a cross-cutting initiative within the programme of work on agricultural biodiversity, with appropriate links to other thematic programmes of work, particularly those on forest biological diversity and the biodiversity of dry and sub-humid lands, and with relevant cross-cutting issues, particularly the Global Taxonomy Initiative and work on invasive alien species. The Initiative provides an opportunity to apply the ecosystem approach.

III. ELEMENTS OF THE PLAN

Element 1. Assessment

Operational objective

To provide a comprehensive analysis of status and trends of the world's pollinator diversity and of their underlying causes of its decline (including a focus on the goods and services provided by pollinator diversity), as well of local knowledge of its management. The result of the assessments will determine the further activities that are required.

Rationale

A number of scientific studies and various separate records strongly suggest that the numbers of crop pollinators are declining in many parts of the world. The yields of some crops are diminishing as a result of insufficient pollinators and many specialists, agronomists and fruit growers are concerned about

the sharp declines in the numbers of bees in recent years. However, the scarcity of sound data hampers the elaboration of a comprehensive assessment of the status and trends of pollinator diversity, which is needed in order to inform policy change.

Similarly, a realistic evaluation of the economic value of animal-effected pollination is essential for the efficient planning of the world's agriculture. Existing estimates are contentious. The description and evaluation, in economic terms, of pollinator contributions to agriculture and environmental diversity will improve informed decision making at farm, regional, national and international levels.

In addition to the "taxonomic impediment" (see element 3), there is also a global "taxonomic deficit," that is, the unacceptably high numbers of bee genera for which identification keys are not available.

Activities

1.1 Monitor the status and trends of pollinators, through:

(a) The establishment of a global network of cooperators to monitor changes in the diversity, population levels and frequency of pollinators through time in selected areas of the world. The network would share findings and discuss local and global trends in pollinators;

(b) The implementation of a pilot global monitoring programme in selected areas worldwide;

(c) The development, assessment and compilation of methods for monitoring pollinators, their diversity and efficiency;

(d) The progressive development and implementation of a global programme for monitoring pollinator diversity, building upon activities (a), (b) and (c) above.

1.2 Assess the economic value of pollinators, including evaluation, in economic terms, of different crop-pollinator-pollination systems for optimal use of pollinators in sustainable agricultural systems, through economic analysis of data from various crop-pollinator-pollination systems, including those provided through case-studies under element 2.

1.3 Assess the state of scientific and indigenous knowledge on pollinator conservation, in order to identify gaps in knowledge and opportunities for application of knowledge; including:

(a) Taxonomic knowledge; and

(b) The knowledge, innovations and practices of farmers and indigenous and local communities in sustaining pollinator diversity and agro-ecosystem services for and in support of food production and food security.

1.4 Promote the development of identification keys for bee genera.

Ways and means

Exchange and use of experiences, information and findings from the assessments shall be facilitated by Parties, Governments and networks with consultation between countries and institutions, including the use of existing networks. Capacity-building activities from programme element 3 will assist countries in contributing to the assessment process. Case-studies, carried out under programme element 2, will also assist the assessment process by highlighting and examining important issues in pollinator conservation and sustainable use and in some cases providing data.

The global monitoring programme of pollinators could be carried out in two stages. A first stage would include activities 1.1 (a), (b), and (c), and 1.4. A second stage would apply the findings of the first stage at a larger and representative number of field sites throughout the world in order to collect the data needed to detect changes in diversity and frequency of pollinators, especially of bee species. The project cannot be contemplated without the active participation of many nations, institutions and co-operators. Substantial additional financial resources would be required, especially for the second stage. Mechanisms will need to be put in place to ensure the continuity and sustainability of monitoring over the long term.

Timing of expected outputs

The first stage of the global programme for monitoring of pollinator diversity should be completed by 2005. The second stage would be conducted for an initial period of five years (2006 – 2010) and then, depending on the progress made, renewed for a further five years at a time thereafter. Important and significant trends are likely to emerge only after several years (5-10) of monitoring.

A preliminary report on the state of the world's pollinators would be prepared by 2004 based on existing data, and early results from elements 1 and 2. A first comprehensive report would be prepared by 2010, drawing upon, *inter alia*, the results of the monitoring programme, and the economic analyses.

Element 2. Adaptive management

Operational objective

To identify management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on pollinator diversity and activity, in order to enhance productivity and the capacity to sustain livelihoods, by expanding knowledge, understanding and awareness of the multiple goods and services provided by pollinators.

Rationale

In order to secure sustained pollinator services in agricultural and other ecosystems, far more understanding is needed of the multiple goods and services provided by pollinator diversity and the factors that influence their decline. In particular, it is necessary to identify the various interactions between dimensions of agricultural biodiversity at different spatial scales that support effective pollinator functioning. In addition, it is necessary to identify adaptive management practices that minimise negative impacts by humans on pollinators, promote the conservation and diversity of native pollinators, and conserve and restore natural areas necessary to optimise pollinator services in agricultural and other ecosystems.

Activities

2.1. Carry out a series of case-studies, in a range of environments and production systems, and in each region:

(a) To identify key goods and services provided by pollinator diversity, the role of components of biological diversity in agricultural and other ecosystems in supporting such diversity, and threats to such diversity including, for example, use of pesticides, habitat change and the introduction of exotic pollinators;

(b) To identify best management practices; and

(c) To monitor and assess the actual and potential impacts of existing and new agricultural technologies.

This activity would address the multiple goods and services provided by pollinator diversity and the interaction between its various components, for example:

(i) The impacts of introduction of pollinators;

(ii) The impacts of alien invasive species on pollinators;

(iii) The impacts of fragmentation and habitat loss on pollinators diversity, and the ecosystems that support them;

(iv) The impact of pesticides on pollinators diversity and abundance, including pest control programmes;

(v) Sustainable management of pollinators;

(vi) Decline of Honeybees, other bees and other pollinators;

(vii) The dynamics of pollinators diversity decline;

(viii) The interactions between pollination and genetically-modified crops;

(ix) Conservation and restoration of pollinators diversity;

(x) Mainstreaming and stakeholder engagement;

(xi) Economics of pollination.

2.2. Identify and promote the dissemination of information on cost-effective practices and technologies, and related policy and incentive measures that enhance the positive and mitigate the negative impacts of agriculture on pollinator diversity, productivity and capacity to sustain livelihoods, through:

(a) Comprehensive analyses in selected production systems of the costs and benefits of alternative management practices and technologies on pollinator conservation and effectiveness, and the valuation of the goods and services provided by pollinator diversity including the pollination requirements and best pollinators of each crop species and the impact of pollinator presence/absence on fruit and seed yield;

(b) Comprehensive analyses of the impacts of agricultural production, including their intensification and extensification, on the environment and identification of ways to mitigate negative and promote positive impacts;

(c) Identification, at international and national levels, in close collaboration with relevant international organizations, of appropriate marketing and trade policies, legal and economic measures which may support beneficial practices. This may include certification practices, possibly within existing certification programmes, and the development of codes of conduct.

2.3. Promote methods of sustainable agriculture that employ management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on pollinator diversity. This could include, for example, the protection of natural habitats, within agricultural landscapes, as sources of wild pollinators for crop improvement; the development of guidelines for policy makers and farmers; and the development of model-testing protocols for the introduction of

non-native pollinators and to assess impacts of agrochemicals and other technologies on pollinators and pollinator activities.

Ways and means

Case-studies will be carried out and provided by national institutions, civil-society organizations, and research institutes, with support from international organizations for catalysing preparation of studies, mobilizing funds, disseminating results, and facilitating feedback and lessons learned to case-study providers and policy makers. Inputs would be sought from all relevant stakeholders. A framework for the case-studies is provided by the indicative outline for case-studies on agricultural biological diversity http://www.biodiv.org/thematic/agro

Timing of expected outputs

A first set of case-studies is already under preparation. Further case-studies would be studies published, analysed and disseminated by 2005. The case-studies should be representative of regional issues and prioritize best practices and lessons learned that can be broadly applied.

C. Element 3. Capacity-building

Operational objective

To strengthen the capacities of farmers, indigenous and local communities, and their organizations and other stakeholders, to manage pollinator diversity so as to increase its benefits, and to promote awareness and responsible action.

Rationale

The management of pollinator diversity involves many stakeholders and often implies transfers of costs and benefits between stakeholder groups. It is therefore essential that mechanisms be developed not only to consult stakeholder groups, but also to facilitate their genuine participation in decision-making and in the sharing of benefits. Farmer groups, and other producer organizations, can be instrumental in furthering the interests of farmers in optimizing sustainable, diversified, production systems and consequently in promoting responsible actions concerning the conservation and sustainable use of pollinator diversity.

One major area which needs addressing is the capacity of countries to address the taxonomic impediment, which derives from serious shortfalls in investment in training, research and collections management. It seriously limits our capability to assess and monitor pollinator decline globally, in order to conserve pollinator diversity and to manage it sustainably. The global taxonomic impediment is costly, especially when expressed in terms of those research initiatives in pollination and conservation ecology which are wholly dependent on access to sound bee taxonomy and are rendered wholly non-viable in its absence. There is also a global taxonomic deficit, that is, the unacceptably high numbers of bee genera for which identification keys are not available.

Activities

3.1. Promote awareness about the value of pollinator diversity and the multiple goods and services it provides for sustainable productivity, amongst producer organizations, agricultural cooperatives and enterprises, and consumers, with a view to promoting responsible practices.

3.2 Identify and promote possible improvements in the policy environment, including benefit-sharing arrangements and incentive measures, to support local-level management of pollinators and related dimensions of biodiversity in agricultural ecosystems. This could include consideration of how existing or new certification schemes might contribute to the conservation and sustainable use of pollinator diversity.

3.3. Promote enhanced capabilities to manage pollinator diversity at local level by promoting partnerships among and between farmers, researchers, extension workers and food processors, inter alia, through the establishment of local-level forums for farmers, and other stakeholders to evolve genuine partnerships, including training and education programmes.

3.4 Build taxonomic capacity to carry out inventories of the pollinator diversity and distribution in order to optimise their management, through, *inter alia*, the training of taxonomists and parataxonomists of bees and other pollinators.

3.5 Develop tools and mechanisms for the international and regional exchange of information for the conservation, restoration and sustainable use of pollinators. This may include:

(a) Establishing an inventory of existing pollination and pollinators experts to serve as a pool for consultations in technology transfer, and establish an international advisory group on pollinator conservation.

(b) Disseminating information on pollination in agricultural environments through databases, websites, and networks. This may include the establishment of an international information network on pollinator conservation and promotion of networks of farmers and farmers' organizations at regional level for exchange of information and experiences.

(c) Developing and updating global and national lists of threatened pollinator species, and produce multilingual manuals on pollinator conservation and restoration for farmers.

Ways and means

This element is to be implemented primarily through initiatives within countries, including through extension services, local government, educational and civil-society organizations, including farmer/producer and consumer organizations, and mechanisms emphasizing farmer-farmer exchange. There are opportunities for cooperation with the food processing industry in terms of supplying pesticide-free or low-residue products from agricultural systems that maintain pollinator diversity. Pilot projects for this element might be generated under the Initiative. Funding is likely to be on a project or programme basis. Catalytic support may need to be provided through national, regional and global programmes, organizations, facilities and funding mechanisms, in particular to support capacity-building, exchange and feedback of policy and market information, and of lessons learned from this and programme element 2, between local organizations and policy makers, nationally, regionally and globally.

The taxonomic elements would also be promoted through the Global Taxonomy Initiative.

Timing of expected outputs

Ten on-the-ground cases of enhanced partnerships resulting in greater conservation of pollinator diversity at the local level, by 2006. Introduction of mechanisms promoting pollinator diversity by 2010.

D. Element 4. Mainstreaming

Operational objective

To support the development of national plans or strategies for the conservation and sustainable use of pollinator diversity and to promote their mainstreaming and integration in sectoral and cross-sectoral plans and programmes.

Rationale

Many countries are now developing biodiversity strategies and action plans in the context of the Convention on Biological Diversity, and many also have a number of other policies, strategies and plans related to agriculture, the environment and national development. Decision V/5 of the Conference of Parties to the Convention on Biological Diversity seeks to promote the mainstreaming of agricultural biodiversity considerations into national strategies and action plans; to mainstream the action plans for components of agricultural biodiversity in sectoral development plans concerned with food, agriculture, forestry and fisheries, and to promote synergy and avoid duplication between the plans for the various components. Pollinator conservation and sustainable use is an important aspect of agricultural biodiversity and should be integrated into this mainstreaming process. In addition, this requires reliable and accessible information, but many countries do not have well developed information, communication or early-warning systems or the capacity to respond to identified threats.

Activities

4.1. Integrate considerations of pollinator diversity, and related dimensions of agricultural biodiversity, including host-plant diversity, at species, ecosystem and landscape levels, consistent with the ecosystem approach, into biodiversity strategies and action plans, and into planning processes in the agricultural sector.

4.2. Support the development or adaptation of relevant systems of information, early warning and communication to enable effective assessment of the state of pollinator diversity and threats to it, in support of national strategies and action plans, and of appropriate response mechanisms.

4.3 Strengthen national institutions to support taxonomy of bees and other pollinators, through, *inter alia*:

(a) Assessing national taxonomic needs (this would contribute to activity 1.3);

(b) Maintaining continuity of taxonomic and reference collections of bees and other pollinators;

(c) Recognition of centres of excellence in bee taxonomy and establishment of centres of excellence as appropriate;

(d) Repatriation of data through capacity-building and benefit-sharing.

4.4 Include considerations of pollinator diversity, and related dimensions of agricultural biodiversity, including host plant diversity, at species, ecosystem and landscape levels, consistent with the ecosystem approach, in formal educational programmes at all levels. Integrate pollination issues as a component of sustainable management into agricultural, biological and environmental science courses and curricula and in primary and secondary schools by using local examples and relevant examples from other regions. Promote applied research on pollination in agricultural ecosystems through training of postgraduates.

Ways and means

Activities would be implemented primarily at national level through enhanced communication, coordination mechanisms and planning processes that involve all stakeholder groups, facilitated by international organizations, and by funding mechanisms.

Additional resources may be needed for national capacity-building.

The taxonomic elements would also be promoted through the Global Taxonomy Initiative.

Timing of expected outputs

Progressively increased capacity at national level for taxonomy, information management, assessment and communication.

Consideration of pollinators and related dimensions of agricultural biodiversity incorporated into national biodiversity and/or agricultural sector plans in 50 countries by 2010.

VII/8. *Global strategy for plant conservation*

The Subsidiary Body for Scientific, Technical and Technological Advice,

Recalling decision V/10 of the Conference of the Parties,

Noting the call from the XVIth International Botanical Congress, in August 1999, for plant conservation to be recognized as an outstanding global priority in biodiversity conservation,

Further noting that the Gran Canaria Declaration of April 2000 called for the development of a Global Strategy for Plant Conservation, within the framework of the Convention on Biological Diversity, and the support for such a strategy by the second IUCN World Conservation Congress, in September 2000,

Recognizing ongoing international initiatives that contribute to plant conservation, such as the Global Plan of Action for Plant Genetic Resources for Food and Agriculture and the International Treaty on Plant Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations, the Strategic Plan and work of the Plants Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Man and Biosphere programme of the United Nations Educational, Scientific and Cultural Organization, the International Agenda for Botanical Gardens in Conservation, the IUCN Species Survival Commission's Plant Conservation Programme, the International Plant Protection Convention, the Global Invasive Species Programme, activities of the International Association of Botanic Gardens; and the people and plants initiative of the World Wide Fund for Nature and the United Nations Educational, Scientific and Cultural Organization,

Recognizing also that the thematic and cross-cutting programmes of work of the Convention contain elements aimed at plant conservation,

Noting the importance of national actions, in accordance with national priorities, to the achievement of plant conservation, and the urgent need to strengthen national capacities,

Recognizing regional initiatives such as the European Plant Conservation Strategy developed by the Council of Europe and Planta Europa as valuable contributions to global plant conservation,

1. *Recommends* that the Conference of the Parties, at its sixth meeting*:*

(a) *Considers* for adoption a global strategy for plant conservation, which should include outcome-oriented global targets for 2010, developed on the basis of the proposals in the annex to the present recommendation and taking into account the results of the inter-sessional work described in paragraphs 2, 3 and 4 below;

(b) *Invites* relevant international organizations to adopt these targets, in order to promote a common effort towards halting the loss of plant diversity;

(c) *Notes* that the targets provide a flexible framework within which national and/or regional targets may be developed, according to national priorities and capacities taking into account differences in plant diversity between countries;

(d) *Invites* Parties and Governments to develop national and/or regional targets, and, as appropriate, to incorporate them into relevant plans, programmes and initiatives, including national biodiversity strategies and action plans;

(e) *Emphasizes* the need for capacity building, particularly in developing countries, small island states, and countries with economies in transition, in order to enable them to implement the strategy;

(f) *Considers* the need to ensure financial support, for country driven activities and capacity building for the implementation of the strategy;

(g) *Reviews*, at its eighth and tenth meetings, the progress made in reaching the global targets, and provide additional guidance in light of those reviews;

(h) *Considers* the global strategy for plant conservation as a pilot approach for the use of outcome targets under the Convention within the context of the Strategic Plan and, also consider the wider application of this approach to other areas under the Convention, including other taxonomic groups;

(i) *Requests* the Subsidiary Body on Scientific, Technical and Technological Advice:

(i) To take the targets into consideration in its periodic reviews of the thematic and cross-cutting programmes of work of the Convention;

(ii) To develop ways and means, within the Convention's thematic and cross-cutting programmes of work, for promoting implementation of the global strategy for plant conservation, and for monitoring and assessing progress; and to report to the Conference of the Parties at its seventh meeting;

(j) *Welcomes* the contribution of the "Gran Canaria Group" in developing this strategy, and invite the organizations involved, and other relevant organizations, in collaboration with the Executive Secretary, to contribute to the further development, implementation and monitoring of strategy;

[Inter-sessional work]

In preparation for consideration of the draft strategy by the Conference of the Parties at its sixth meeting,

2. *Requests* the Executive Secretary, with the support of technical experts, in consultation with participants of the ongoing international initiatives referred to in the fourth paragraph of the preamble to the present recommendation and on the basis of advice from Parties, to refine the quantitative elements of the targets in the draft strategy providing a scientific and technical rationale in each case, and clarifying terms as necessary;

3. *Requests* the Executive Secretary to prepare an analysis of the opportunities for implementation of the strategy through the thematic and cross-cutting programmes of work of the Convention, including in particular the Ecosystem Approach and the Global Taxonomy Initiative, as well as through existing relevant international, regional and national initiatives, and of any gaps in these programmes and initiatives;

4. *Invites* Parties, Governments and relevant organizations to provide information to the Executive Secretary on relevant international, regional and national initiatives.

Annex

GLOBAL STRATEGY FOR PLANT CONSERVATION

A. Objectives

1. The ultimate and long-term objective of the strategy is to halt the current and continuing loss of plant diversity.

2. The strategy will provide a framework to facilitate harmony between existing initiatives aimed at plant conservation, to identify gaps where new initiatives are required, and to promote mobilization of the necessary resources.

3. The strategy will be a tool to enhance the ecosystem approach to the conservation and sustainable use of biodiversity and focus on the vital role of plants in the structure and functioning of ecological systems and assure provision of the goods and services such systems provide

4. The strategy will also:

(a) Provide a pilot exercise under the Convention for the setting of targets that relate to ultimate objectives of the Convention;

(b) Act as a means to develop and implement the thematic programmes of work of the Convention.

5. Within the ultimate and long-term objective, a number of sub-objectives can be identified as follows:

(a) *Understanding and documenting plant diversity*:

(i) Document the plant diversity of the world, including its use and its distribution in the wild, in protected areas and in *ex situ* collections;

(ii) Monitor the status and trends in global plant diversity and its conservation, and threats to plant diversity, and identify plant species, plant communities, and associated habitats and ecosystems, at risk, including consideration of "red lists";

(iii) Develop an integrated, distributed, interactive information system to manage and make accessible information on plant diversity;

(iv) Promote research on the genetic diversity, systematics, taxonomy, ecology and conservation biology of plants and plant communities, and associated habitats and ecosystems, and on social, cultural and economic factors that impact biodiversity, so that plant diversity, both in the wild and in the context of human activities, can be well understood and utilized to support conservation action;

(b) *Conserving plant diversity*: Improve long-term conservation, management and restoration of plant diversity, plant communities, and the associated habitats and ecosystems, *in situ* (both in more natural and in more managed environments), and, where necessary to complement *in situ* measures, *ex situ*, preferably in the country of origin. The strategy will pay special attention to the

conservation of the world's important areas of plant diversity, and to the conservation of plant species of direct importance to human societies;

(c) *Using plant diversity sustainably*:

(i) Strengthen measures to control unsustainable utilization of plant resources;

(ii) Support the development of livelihoods based on sustainable use of plants, and promote the fair and equitable sharing of benefits arising from the use of plant diversity;

(d) *Promoting education and awareness about plant diversity*: Articulate and emphasize the importance of plant diversity, the goods and services that it provides, and the need for its conservation and sustainable use, in order to mobilize necessary popular and political support for its conservation and sustainable use;

(e) *Building capacity for the conservation of plant diversity*:

(i) Enhance the human resources, physical and technological infrastructure necessary, and necessary financial support for plant conservation;

(ii) Link and integrate actors to maximize action and potential synergies in support of plant conservation.

B. Rationale, scope and general principles

6. Plants are universally recognized as a vital part of the world's biological diversity and an essential resource for the planet. In addition to the small number of crop plants used for basic food and fibres, many thousands of wild plants have great economic and cultural importance and potential, providing food, medicine, fuel, clothing and shelter for vast numbers of people throughout the world. Plants play a key role in maintaining the planet's basic environmental balance and ecosystem stability and provide an important component of the habitats for the world's animal life. At present, a complete inventory of the plants of the world has not been assembled, but it is estimated that the total number of vascular plant species may be of the order of 300,000. Of particular concern is the fact that many are in danger of extinction, threatened by habitat transformation, over-exploitation, alien invasive species, pollution and climate change. The disappearance of such vital and large amounts of biodiversity sets one of the greatest challenges for the world community: to halt the destruction of the plant diversity that is so essential to meet the present and future needs of humankind. The global strategy for plant conservation is proposed to address this challenge. While the entry point for the strategy is conservation, aspects of sustainable use and benefit-sharing are also included.

7. The rationale for a strategy focusing on plants has two aspects:

(a) Plants are primary producers and provide habitat infrastructure for many ecosystems;

(b) Setting meaningful targets is feasible since scientific understanding of at least higher plants, though incomplete, is better than for most other groups.

8. Accordingly, the proposed strategy addresses the Plant Kingdom with focus on higher plants, and other well-described groups such as Bryophytes and Pteridophytes. The setting of measurable targets for this set of taxa is more credible than for many lower plant groups. This does not imply that these groups do not have important ecological functions, nor that they are not threatened. However, effective action will be

best achieved by focusing, in an initial phase at least, on achievable outcomes for known taxa. Parties may choose on a national basis to include lower taxa.

9. The strategy applies to plant genetic diversity, plant species and communities and their associated habitats and ecosystems.

10. The strategy would provide a framework for actions at global, regional, national and local levels. A global dimension to the strategy is important because it can:

(a) Facilitate the development of a global consensus of key objectives, targets and actions;

(b) Strengthen possibility of implementing necessary transnational actions (such as some recovery programmes);

(c) Optimize availability and usefulness of information;

(d) Be used to focus research on key generic issues (such as conservation methods);

(e) Allow the identification of appropriate standards for plant conservation;

(f) Mobilize support for globally significant actions (globally threatened species; "centres of plant diversity" and "hot spots"); and

(g) Allow for collaboration between national, regional and international entities.

11. The global strategy for plant conservation will:

(a) Apply the Convention provisions on access and benefit sharing, drawing as appropriate on the Bonn Guidelines for access and benefit sharing, with a view to ensuring a fair and equitable sharing of benefits arising from the use of genetic resources, and consistent with the International Treaty on Plant Genetic Resources for Food and Agriculture;

(b) Build upon the knowledge, innovations and practices of indigenous and local communities, with the approval and involvement of the holders of such knowledge, innovations and practices, and contribute to the implementation of Article 8(j) of the Convention;

(c) Apply the ecosystem approach adopted under the Convention, recognizing the interaction of plants and plant communities, with other components of ecosystems, at all scales, and their role in ecosystem functions and processes. The ecosystem approach also implies, *inter alia*, intersectoral cooperation, decentralization of management to the lowest level appropriate, equitable distribution of benefits, and the use of adaptive management policies that can deal with uncertainties and are modified in the light of experience and changing conditions;

(d) Adopt a multidisciplinary approach that takes into account scientific, social and economic issues;

(e) Strengthen initiatives on national inventories.

C. Targets

12. Proposed global targets for the year 2010 1/ are as follows:

(a) *Understanding and documenting plant diversity*:

(i) A widely accessible working list of known plant species, as a step towards a complete world flora;

(ii) An assessment of the conservation status of [all] known plant species, at international, regional and national levels;

(iii) An understanding of basic conservation needs for threatened plant species and plant communities, with conservation protocols and/or techniques to assess and protect plant communities developed as necessary;

(b) *Conserving plant diversity:*

(i) [10 per cent] of each of the world's ecological regions effectively conserved;

(ii) Protection of [70 per cent] of the world's most important areas for plant diversity assured;

(iii) At least [30 per cent] of production lands managed consistent with the conservation of plant diversity;

(iv) [50 per cent] of the world's threatened species effectively conserved in situ;

(v) [90 per cent] of threatened plant species in accessible ex situ collections, preferably in the country of origin, and [20 per cent] of them included in recovery and restoration programmes;

(vi) [70 per cent] of the genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated local and indigenous knowledge maintained;

(vii) Management plans in place for [90 per cent] of major alien species that threaten plants, plant communities and associated habitats and ecosystems;

(c) *Using plant diversity sustainably:*

(i) No species of wild flora subject to unsustainable exploitation because of international trade;

(ii) [30 per cent] of plant-based products derived from sources that are sustainably managed;

(iii) The decline of plant resources, and associated local and indigenous knowledge, that support sustainable livelihoods, local food security and health care, reversed;

(d) *Promoting education and awareness about plant diversity:*

(i) The importance of plant diversity and the need for its conservation incorporated into educational programmes;

1/ The date of 2010 has been used to synchronize the strategy with the Convention's draft Strategic Plan.

(e) *Building capacity for the conservation of plant diversity:*

(i) The number of trained people working with adequate facilities in plant conservation and related activities [doubled]/[increased], according to national needs;

(ii) Networks for plant conservation activities established or strengthened at international, regional, and national levels.

13. These targets provide a framework for policy formulation and a basis for monitoring. National targets developed within this framework may vary from country to country, according to national priorities and capacities taking into account differences in plant diversity.

D. The strategy as a framework

14. The strategy is not intended to be a "programme of work" analogous to existing thematic and cross-cutting programmes of work under the Convention. It does not, therefore, contain detailed activities, expected outputs etc. Rather, the strategy provides a framework by means of setting outcome-orientated targets (these differ from the "process" targets used so far under the Convention). It is envisaged that the activities necessary to reach those targets could be developed within this framework. In many cases, activities are already under way, or envisaged in existing initiatives. These include:

(a) Activities aimed at plant conservation within national biodiversity strategies and action plans and relevant sectoral and cross-sectoral plans, programmes and policies. In this respect, Parties and Governments may wish to report on the incorporation of the strategy in their national plans, programmes and policies;

(b) Relevant activities under existing relevant initiatives, in particular: the Strategic Plan and work of the Plants Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the International Plant Protection Convention (IPPC); the International Treaty on Plant Genetic Resources of the Food and Agriculture Organization; the FAO Global Plan of Action for Plant Genetic Resources for Food and Agriculture; the Man and the Biosphere programme of the United Nations Educational, Scientific Cultural Organization (UNESCO); the Global Strategy on Invasive Alien Species of the Global Invasive Species Programme (GISP); the plant conservation programme of the IUCN Species Survival Commission; the International Agenda for Botanic Gardens in Conservation; activities of the International Association of Botanic Gardens; and the WWF-UNESCO people and plant programme; and

(c) Relevant activities under the programmes of work of the Convention on Biological Diversity, including those relating to agricultural biodiversity, forest biological diversity, inland water biological diversity, marine and coastal biological diversity, and dry and sub-humid lands, as well as activities involving cross-cutting issues such as access and benefit-sharing, sustainable use, indicators, alien species, the Global Taxonomy Initiative, and issues related to Article 8(j).

15. The strategy and its 16 targets are intended to provide a framework for policy makers and public opinion and catalyse the reforms necessary to achieve plant conservation. Clear, stable, long-term targets that are adopted by the international community can help shape expectations and create the conditions in which all actors, whether Governments, the private sector, or civil society, have the confidence to develop solutions to address threats to plant diversity. For the targets to be widely understood, and appealing to public opinion, they need to be kept fairly simple and straightforward. They should be understood in a commonsensical rather than a literal way. In order that the number of targets be kept manageable, they need to focus on a set of activities that are strategic, rather than aiming to be comprehensive. Targets may

be reviewed, and appropriate revised, as major new scientific evidence becomes available on important areas for plant diversity, threats to diversity, and major alien species that threaten plants, plant communities and associated habitats and ecosystems.

E. Further work required to develop and implement the strategy

16. Measures to implement the strategy will need to be put in place at international, national, and subnational levels. This will include development of national targets and their incorporation into relevant plans, programmes and initiatives, including national biodiversity strategies and action plans. National targets will vary from country to country according to differences in levels of plant diversity and national priorities. Multilateral and bilateral funding agencies should consider putting in place policies and procedures to ensure that their funding activities are supportive of and do not run counter to the strategy and its targets.

17. For each target, the scope of activities may need to be clarified and sub-targets, or milestones, developed. In order to monitor progress towards achieving the targets, baseline data and a series of indicators may need to be developed. This would draw upon relevant national and international data sets (such as national "red lists"), and make full use of the clearing-house mechanism.

18. Regional components of the strategy might be developed, perhaps using a bio-geographical approach.

19. In addition to the Parties to the Convention, the design, development and implementation of the strategy should involve a range of actors, including:

(a) International initiatives (e.g., intergovernmental organizations, United Nations agencies, multilateral aid agencies);

(b) Conservation and research organizations (including protected-area management boards, botanic gardens, gene banks, universities, research institutes, non-governmental organizations and networks of non-governmental organizations);

(c) Communities and major groups (including local and indigenous communities, farmers, women, youth);

(d) Governments (central, regional, local authorities);

(e) The private sector.

20. In order to promote implementation of the strategy and facilitate cooperation between these initiatives, the Executive Secretary will collaborate with relevant stakeholders. To ensure full participation, the actors mentioned in paragraph 19 above should reflect not only United Nations geographical regions but also biogeographical regions. This collaboration will aim to avoid duplication of effort, promote collaboration and synergies among existing initiatives, and facilitate analysis of the status, trends, and effectiveness of different measures on the conservation and sustainable use of plant diversity. Consideration might also be given to the establishment of a flexible coordination mechanism.

VII/9. *Incentive measures*

The Subsidiary Body on Scientific, Technical and Technological Advice

1. Underlining the special importance of designing and implementing incentive measures in reaching the objectives of the Convention as well as removing and mitigating negative impacts on biodiversity, *urges* Parties to consider the use of incentive measures in their national biodiversity strategies and action plans;

2. *Underlines* the need for cooperation and collaboration of international organizations in efforts to assist Governments in designing and implementing incentive measures;

3. *Recognizes* that further work has to be undertaken to consider incentive measures in relation to thematic areas;

4. *Underlines* the importance of incentive measures for other cross-cutting issues, such as access to genetic resources and the fair and equitable sharing of benefits arising from their utilization;

5. *Stresses* that incentive measures could be used at the local, national and international levels to enhance conservation and sustainable use of biodiversity and its components.;

6. Taking note of decision V/15, paragraph 3 (b), of the Conference of the Parties *calls upon* the Executive Secretary to make information gathered on perverse incentives available to the Conference of the Parties at its sixth meeting;

7. *Welcomes* the report of the Workshop on Incentive Measures for the Conservation and Sustainable Use of Biological Diversity, held in Montreal from 10 to 12 October 2001;

8. *Recommends* that the Conference of the Parties consider and endorse at its sixth meeting the proposals for the design and implementation of incentive measures and the recommendations for further cooperation on incentive measures, contained respectively in annexes I and II to the present recommendation, as far as they are consistent with Parties' national policies and legislation as well as their international obligations;

9. *Invites* Parties to submit case-studies and best practices on incentive measures and their implementation before the sixth meeting of the Conference of the Parties. This important information on social, legal and economic incentive measures should be made available by the Executive Secretary before the sixth meeting of the Conference of the Parties.

Annex I

PROPOSALS FOR THE DESIGN AND IMPLEMENTATION OF INCENTIVE MEASURES

1. As contemplated in decision V/15, paragraph 3, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) elaborated the following proposals for the design and implementation of incentive measures, for submission to the sixth Conference of the Parties.

2. In the development of appropriate incentive measures for the conservation and sustainable use of biological diversity, SBSTTA agreed that in general terms incentive measures should be designed to address the conservation and sustainable use of biological diversity, while taking into account:

(a) Local and regional knowledge, geography, circumstances and institutions;

(b) The mix of policy measures and structures in place including sectoral considerations;

(c) The need to match the scale of the measure to the scale of the problem;

(d) The measures' relationship to existing international agreements.

3. It also agreed that the following elements should be taken into consideration in the design and implementation of incentive measures for the conservation and sustainable use of biological diversity:

A. Identification of the problem: purpose and issue identification

4. ***Goals of the incentive measures.*** An incentive measure should have a defined purpose. Consistent with decision V/15, the purpose of incentive measures is to change institutional and individual behaviour in order to achieve in whole or in part the following objectives of the Convention on Biological Diversity: the conservation of biodiversity, the sustainable use of the components of biodiversity and the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

5. ***Underlying causes/threats to biodiversity***. The identification of the proximate and underlying causes and the importance of threats to biodiversity and its components are a prerequisite for the selection of the appropriate measure to stop or reverse degradation. Policies that create incentives without removing the underlying causes of biodiversity loss (including perverse incentives) are unlikely to succeed. Therefore, prior to embarking on an exercise to develop incentive measures for conservation or sustainable use, it is important to undertake a thorough study to identify and evaluate the respective and mutually reinforced impacts of any underlying pressures.

6. This study should specifically include threats generated by social or economic forces or by the institutional framework. In some cases social and economic issues are at the root of unsustainable practices and, while addressing market and policy failures with incentive measures may help correct this behaviour, the measures may not address core problems such as lack of resources or poverty and unjustified human demands beyond needs. This might also include the analysis of existing incentive measures, at the national and at the international level; specifically, perverse incentives that might threaten biodiversity, and the barriers that stand in the way of their removal, should be identified.

7. While most of the underlying causes in general are listed in the OECD Handbook of Incentive Measures for Biological Diversity: Design and Implementation, 2/ it is important that each country implement incentive measures that are targeted at specific causes relevant to its circumstances. Incentives may be directed to correct some underlying causes related to economic development trends, poverty, lack of policy integration, sectoral policy impacts, and perverse measures undertaken at the national, supra-national and international levels.

8. ***Identification of relevant experts and stakeholders***. As well as including policy-makers, experts and scientists, the range of stakeholders should include the private sector, women, and local

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2/ OECD Handbook of Incentive Measures for Biological Diversity: Design and Implementation (OECD, 1999).

communities as well as individuals, relevant national and multilateral organizations, non-governmental organizations and representatives of indigenous and local communities. These stakeholders may have contributed to the issue and/or have practical knowledge of it and could be key players in its successful implementation. Moreover, different levels of decision-making (local, subnational, national, subregional, regional, international) and their interrelationship must be taken into consideration in order to ensure coherence of the measure.

9. ***Establish processes for participation***. In order to ensure that incentive measures are developed in a manner that is participatory and promotes effective policy integration and stakeholder participation, processes should be established to facilitate intergovernmental dialogue as well as dialogue with relevant stakeholders including indigenous and local communities and representatives of civil society.

10. ***Set clear targets and indicators***. To the extent feasible, incentive measures should have targets that are specific, measurable, time-driven, and based on an analysis of their effects. The successful monitoring and evaluation of their impacts is an important factor in ensuring the ultimate success of incentive measures. For example, indicators can facilitate the evaluation of a measure and provide useful information in determining the need for corrective action.

B. Design

11. ***Ecosystem approach***. The design of incentive measures should, where appropriate and feasible, be based on an ecosystem approach as defined in the framework of the Convention.

12. ***Sectoral approach.*** The design of incentive measures should also be based, where possible, on an analysis of the incentives of the different economic sectors such as tourism, forestry, fisheries and agriculture.

13. ***Sectoral mainstreaming:*** Consideration should be given to integrating biodiversity incentives into the incentives provided through other sectors, where appropriate;

14. ***Carrying capacity***. The carrying capacity of the different ecosystems has to be fully considered in the design of incentive measures, as the use of resources may be limited by carrying capacity.

15. ***Precautionary approach.*** Combined with the ecosystem approach, a precautionary approach requires that programmes on incentive measures err on the side of caution when scientific knowledge is uncertain and where there is a threat of significant reduction or loss of biological diversity.

16. ***The efficiency objective.*** Programmes on incentive measures should primarily consider those measures which best meet biodiversity objectives, and should be designed to ensure that expected benefits are greater than or equal to the cost of implementation, administration, and enforcement. The social and institutional context of a country can affect these costs considerably. Whenever benefits cannot be adequately quantified, cost-effectiveness analysis (i.e., to achieve a given target at minimum cost) should be applied.

17. ***Internalization.*** Internalization should be considered as one of the guiding principles for selecting appropriate incentive measures to prevent, arrest or reverse the loss of biodiversity and take into account other relevant environmental concerns, such as climate change, desertification and deforestation. Internalization refers to the incorporation of external costs and benefits into the decisions of producers and consumers. External costs and benefits are essentially environmental "side-effects" of economic activities and incentive measures should strive to internalize a greater proportion of these effects in the calculation

of decision makers and consumers. When full internalization is not possible (due to economic and social circumstances), incentives should be designed so as to make sustainable activities more attractive than unsustainable ones.

18. ***Undertaking valuation***. While recognizing that full internalization is often not possible because of limitations of valuation methods, as recognized by the Conference of the Parties in its decision IV/10, valuation is nevertheless an important step for better internalizing and raising awareness of the importance of biodiversity values.

19. ***Underlying cause of biodiversity loss.*** Programmes on incentives should be designed to address the underlying causes of biodiversity loss.

20. ***Comprehensibility*.** While recognizing the interaction of many factors, incentive measures should remain as simple and focused as possible, allowing for faster implementation and clearer assessment of their effects. They should be easily understood by all stakeholders.

21. ***Equity: distributional impacts***. In designing incentive measures, it is important to ensure that the definition of beneficiary communities is inclusive and equitable. A participatory approach to the design and implementation of incentive measures can help ensure that these issues are considered. Any conservation measure has some impact on stakeholders; incentive measures should aim to take into account those who benefit and those who assume the cost of the measure. Incentive measures should be designed and introduced in a way to support poverty alleviation and reduction of disparities between rural and urban communities.

22. ***Capturing value for local and indigenous communities***. The value of biological diversity for subsistence, cultural or commercial purposes should be recognized and incentive measures designed so that, to the extent possible, they support the social and economic development needs of indigenous and local communities. The approach of these communities in determining the values of biological diversity should be taken into consideration.

23. ***Raising awareness of biodiversity values and services***. Identifying and assessing the value of biodiversity and of the environmental services that it provides can be an incentive in itself and supports the design of other incentive measures. Raising awareness among all stakeholders of the value and services of biodiversity improves the chances for incentive measures to be successful.

24. ***Mix of measures***. In many cases, a combination or combinations of various measures is likely to be necessary in order to realize both the public benefits of protecting biodiversity and the private benefits brought about by the sustainable use of its components.

25. ***Monitoring and evaluation***. Incentive measures should be designed to facilitate monitoring and evaluation of their successes and failures.

26. ***Political and cultural acceptability***. The political and cultural context in which any incentive measure is developed should be taken into account in the design of the instrument.

27. ***Funding.*** Funding, as appropriate, should be ensured in the design of the incentive measure.

C. Provision of capacity and building of support: facilitating implementation

28. ***Physical and human capacity.*** Implementation of incentive measures will require adequate physical and human capacity. This includes scientific and technical capacity, as well as capacity related to administrative, educational, training and communications issues. In many cases, in the implementation phase of incentive measures, there will be an ongoing need for training of trainers, managers and other workers, public-education programmes and other forms of human capacity-building. In other cases, there may be a need for physical capacity-building, including the installation of monitoring equipment or other infrastructure needs. Training will often be a necessary component for the effective implementation of incentive measures.

29. ***Institutional mechanisms***. Institutional mechanisms are required to encourage dialogue and communication between policy makers within government and stakeholders outside of government at the national and local levels, in order to promote policy integration. Ensuring that avenues exist for intra-governmental dialogue between relevant ministries and agencies with an interest in biodiversity is important, as government agencies will often share responsibilities in the implementation of incentive measures. Community institutional structures should be developed to make local and indigenous communities equal partners in the implementation of incentive measures. For the implementation of incentive measures, existing institutional arrangements should be recognized and strengthened or new ones should be established, as necessary for the conservation and sustainable use of biological diversity.

30. ***Transparency and dissemination of public information.*** Dissemination of information can play a key role in building support for incentives for conservation and sustainable use. Information on the effects of pressures on biodiversity should be disseminated among stakeholders, administrative and policy authorities and civil society. The provision of information regarding the incentive measure itself to stakeholders and transparency in implementation are also important.

31. ***Stakeholder involvement***. Even after the design of a measure, stakeholders should be involved to ensure that incentive measures are implemented effectively on the ground. Relevant stakeholders should play a role in building the capacity of local institutions and individuals in order to enhance their awareness of the importance of biodiversity conservation measures and facilitate their capacity to participate in all stages of the process, from design to implementation.

32. ***Funding***. Funding should be ensured for capacity-building.

D. Management, monitoring and enforcement

33. ***Administrative and legal capacity***. The ultimate success of any incentive measure is contingent upon successful management, monitoring, enforcement and evaluation of its impact. Adequate capacity to manage, monitor and enforce incentive measures rests in part on adequate stakeholder involvement and the existence of appropriate institutions. It also depends on available administrative and legal capacity.

34. ***Policy-impact indicators***. The development of sound policy-impact indicators is key to any useful valuation of the success or failure of incentive measures.

35. ***Information systems.*** Information systems could facilitate the process of managing, monitoring and enforcing incentive measures.

36. ***Funding***. Adequate funding should be available to ensure the effective management, monitoring and enforcement of incentive measures.

E. Guidelines for selecting appropriate and complementary measures

37. The following are guidelines for selecting appropriate and complementary measures:

(a) Any decision-making process for selecting appropriate and complementary measures should take into account the specific circumstances of the country involved;

(b) It is important to consider the context in which the incentive measure is being introduced to assist final decision-making on a particular measure or measures;

(c) A key consideration in the design of an incentive measure is the recognition that a single measure will often not suffice to address the complexities involved in decisions on biodiversity conservation or sustainable use, and that a mix of measures may be needed;

(d) Equity considerations, such as poverty alleviation, should be given a prominent role in the design and selection of appropriate incentive measures;

(e) The implementation of incentive measures should not result in a significant increase in the cost of living and/or increase in revenue to government;

(f) The size of the country's economy is an important factor in the selection of financial incentive measures;

(g) Well defined land and property rights are an important factor in the design and implementation of incentive measures in the conservation of biological diversity and the promotion of sustainable use;

(h) Positive incentives can influence decision-making by recognizing and rewarding activities that are carried out for conservation and sustainable use purposes;

(i) The removal of perverse incentives eases pressure on the environment. The identification of both internal and external perverse incentives and other threats to biodiversity conservation and to the promotion of sustainable use, is essential to the selection and design of incentive measures. The removal of perverse incentives may improve economic efficiency and reduce fiscal expenditures;

(j) Disincentives continue to be an important tool for ensuring the conservation and sustainable use of biological diversity and can be used in combination with positive incentives.

38. In the process of decision-making, the general or specific features of various types of instruments should be taken into account. The following table 3/ illustrates a range of existing instruments, their general advantages, disadvantages and applicability. It should be taken into account that this list is not comprehensive since a number of other non-economic incentives (e.g., social and cultural incentives) and international incentives should also be considered in a similar fashion. Furthermore, it has to be taken into consideration that some of the enumerated instruments are still under discussion with respect to their effectiveness and their possible shortcomings.

Instrument	**Advantages**	**Disadvantages**	**Applicability**
Environmental	Maximize economic	Rely on measurability of	Applicable in situations

3/ Based on the OECD Handbook of Incentive Measures for Biological Diversity: Design and Implementation.

Instrument	Advantages	Disadvantages	Applicability
taxes/charges	efficiency Easily understandable	single components and on agreement about external cost values. Can require extensive monitoring.	where impacts are easily measurable (e.g., hunting) and sources of impacts can be easily mounted.
Market creation	Result in the most efficient allocation of resources between competing users, and generates appropriate prices for them Low monitoring requirements	May be imperfect where there are (large) external effects and/or monopolies.	Applicable where clearly defined property rights can be established and upheld for easily identifiable goods and services, and transaction costs are low enough.
Removal of perverse incentives	Reforming or removing these incentives can lead to an easing of pressures on the environment, improved economic efficiency and reduced fiscal expenditures.	Perverse incentives can often be difficult to identify (lack of transparency) They may be politically difficult to reform because of the strong opposition from recipients.	Applicable where clear benefits in terms of budgetary, economic efficiency and/or environmental goals can be identified and potential compensatory measures exist to facilitate the support removal process.
Regulations	Easily understandable. Legally binding. Can target directly particular activities or processes.	Can be economically inefficient or costly method of achieving environmental goals, especially if proscribing certain technologies. Strict enforcement is necessary. Inflexible. May be complex and detailed.	Most applicable where there is a limited range of easily identifiable environmental impacts that need circumscription and/or where the number of actors is limited.
Environmental funds	Transparent and high visibility. Positive public relations.	May not maximize economic efficiency. May be inflexible because funds are earmarked to some extent.	Applicable where governments have difficulties raising general funds, where fiscal infrastructure is weak and where clearly identifiable and highly popular causes exist.
Public financing	Popular with recipients.	Requires funding.	Applicable in situations where desirable activities

Instrument	Advantages	Disadvantages	Applicability
	Promotes desirable activities rather than prohibiting undesirable ones.	May lead to economic inefficiencies. May encourage rent-seeking behaviour.	would not be undertaken without support or to create a differential in favour of such activities where it is not feasible to discourage the undesirable alternatives.

Annex II

SUGGESTED RECOMMENDATIONS FOR FURTHER COOPERATION ON INCENTIVE MEASURES

1. Cooperation to assist Governments in designing and implementing incentive measures should be based on the following elements, building on work already under way.

Information

2. It is recognized that the effective design and implementation of incentive measures requires a sound body of knowledge and information. The following measures would assist Parties in ensuring the availability of the required information:

(a) Biodiversity incentives information systems (internet, flyers, CDs, hard copies, translations, etc) should be established or strengthened. This could be achieved through the clearing-house mechanism of the Convention, as well as through other competent international, regional, subregional and national organizations;

(b) Information systems should include the following elements:

(i) Indicators, valuation and assessment methodologies;

(ii) Meta-analysis of existing cases;

(iii) Reference manuals and toolkits.

3. Information systems, whether at the national or international level, should be linked to the clearing-house mechanism of the Convention on Biological Diversity.

4. Such information systems would allow Parties to share experiences and lessons learned with other Parties and facilitate the implementation of incentive measures through the use of guidelines.

5. Parties should carry out an assessment of their national biodiversity strategies and action plans to determine whether they are providing incentives for conservation and sustainable use and whether they are identifying and removing perverse incentives.

The involvement of stakeholders including indigenous and local communities

6. States should develop and apply participatory and coherent approaches to policy-making for biodiversity conservation and sustainable use that fully engage all stakeholders including relevant government departments, non-governmental organizations, the private sector, philanthropic organizations

and indigenous and local communities in a meaningful dialogue in a timely fashion and promote a consistent approach to the use of incentive measures for conservation and sustainable use of biodiversity.

7. Particular emphasis could be placed on the following elements:

(a) Advising policy makers directly on the design and implementation of incentive measures;

(b) Mobilizing key stakeholder groups in policy dialogues relating to the design and implementation of incentive measures, across governments, non-governmental organizations, the private sector, philanthropic organizations, and indigenous and local communities;

(c) Building a network of experts on biodiversity incentives who can provide guidance and information related to specific requests from Governments, civil society and the private sector.

8. In order to encourage a participatory approach, the development of a strategy for policy coordination and stakeholder involvement might be considered. This could include an educational component, a communications component, and a component that highlights successful processes that have been used to generate effective public participation. The Parties would be encouraged to adapt successful processes or components of such a strategy to correspond to their own priorities and situations. Such a coherent and participatory approach to policy making might also encourage the integration of biodiversity concerns into other sectors and policy areas.

Capacity-building

9. Another key to the effective development and implementation of incentive measures is the existence of appropriate legal and policy frameworks and supporting human capacity. The Conference of the Parties has encouraged Governments to develop supportive legal and policy frameworks for the design and implementation of incentive measures. Furthermore, raising awareness of decision makers and stakeholders on the importance of incentives to achieve the objectives of the Convention is an important aspect of human capacity building.

10. The following elements are proposed in order to meet this requirement:

(a) Training biodiversity specialists and decision makers in the design and implementation of incentive measures including training in the use of valuation tools;

(b) Implementing training programmes on basic scientific and economic issues related to the conservation and sustainable use of biodiversity;

(c) Explaining the value of biodiversity at the community level and within sectors, such as agriculture and forestry;

(d) Building capacity related to public awareness.

(e) Developing capacity to conduct research and analysis on incentive measures;

(f) Developing supportive legal and policy frameworks;

(g) Undertaking legislative reviews and providing advice on incentive measures;

(h) Developing avenues for financing where necessary.

Valuation

11. Despite the challenges associated with non-market valuation, it is nonetheless important to pursue ways of creating market signals for the social, cultural and economic values of biodiversity. The Conference of the Parties has recognized the importance of valuation as a tool for designing appropriate incentives. 4/

12. Continued work on valuation can be costly, requires considerable expertise and the ultimate results may be difficult to communicate and the derived monetary values open to challenge. Nevertheless, the methodologies for undertaking valuations should be developed further, as they play a strategic role in the development of incentives for biodiversity conservation and sustainable use. Further cooperative work might include:

(a) Continued exploration of methodologies for valuation of biodiversity and biodiversity resources;

(b) Developing and refining non-market methods of valuation;

(c) Disseminating information on existing techniques for valuation.

13. Work on valuation could be undertaken as a core component of an action plan in partnership with relevant international organizations.

Interlinkages between multilateral environmental agreements (MEAs)

14. There is a need to examine the policies and programmes under different multilateral environmental agreements to ensure that they provide mutually reinforcing incentives. In this respect, SBSTTA noted the joint work programme between the Convention on Biological Diversity and the Ramsar Convention on Wetlands, which includes a focus on incentives, and suggested attention to incentives with regard to other linkages, such as the Convention to Combat Desertification with regard to dryland biodiversity, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora with respect to conservation and sustainable use of species and the United Nations Framework Convention on Climate Change with respect to land-use change and forest biodiversity. In addition, the United Nations Framework Convention on Climate Change is encouraged to give priority to incentives to avoid deforestation, as a substantial amount of greenhouse gas emissions is due to the destruction of forests, the greatest terrestrial repository of biodiversity.

Linking biodiversity to macro-economic policies

15. It is important to explore the linkages with international organizations/agreements focused on economic policies, in particular trade policies under the World Trade Organization and other policies such as labour (the International Labour Organization) and health (the World Health Organization). In addition, linkages to regional and sectoral economic organizations/agreements should be explored to determine their incentive compatibility with the objectives of the Convention.

4/ Decision IV/10 of the Conference of the Parties to the Convention on Biological Diversity states that: "economic valuation of biodiversity and biological resources is an important tool for well-targeted and calibrated economic incentive measures".

16. These linkages should not only be explored at the international level but also at the national level. In particular, they noted the need to link national biodiversity strategies and action plans with economic development strategies at the macro-economic public sector planning and sectoral levels, such as tourism, forestry, fisheries and agriculture.

Categories of incentive measures

17. SBSTTA recognized that there is a vast array of incentive measures as noted in the note by the Executive Secretary (UNEP/CBD/SBSTTA/7/11). It came to the conclusion that the measures should be tailored to the peculiarities of each situation and country. Consideration should also be given to coordination in the development of incentive measures for different sectors, in order to ensure their coherence.

Ecosystem focus

18. SBSTTA suggests prioritizing assessments in line with the thematic programmes adopted by the Conference of the Parties. SBSTTA also noted the incentive focus in the joint programme of work between the Convention on Biological Diversity and Ramsar Convention on Wetlands.

Pilot projects/case-studies/workshops

19. There is a need to launch pilot projects to strengthen the understanding and capacity to design, implement and assess incentive measures. Pilot projects could focus on a number of activities including awareness-raising, valuation studies, assessment of existing incentives, development of new incentive schemes and removal of barriers to incentives. Such pilot projects should have built in linkages to existing initiatives under way in UNEP, and other relevant organizations.

20. It is important that such pilot projects be country-driven and build the capacities of local institutions and policy makers.

21. Workshops can be valuable means to exchange both positive and negative experiences and best practices with respect to the design and implementation of incentive measures. Country-driven case-studies that reflect both the experiences of developing and developed countries could provide a good basis through which the strengths and weaknesses of specific incentive measures could be evaluated, taking into account the peculiarities of countries, ecosystems and sectors.

Role of international organizations

22. Competent international organizations should be requested to support the efforts of Parties in their work on incentive measures, in particular through the dissemination of information, the provision of expertise and technical guidance, and training.

23. An inter-agency coordination committee should be established, based on the liaison group established by the Executive Secretary (including representatives from the FAO, OECD, UNCTAD, UNDP, UNEP and IUCN as set out in decision V/15 of the Conference of the Parties) to coordinate activities at the international level, thus avoiding overlapping initiatives and activities while providing support to Parties. The committee should also include representatives from the World Bank and the secretariats of other relevant multilateral environmental agreements.

Financial support

24. SBSTTA recommends that the Conference of the Parties give guidance to the GEF to provide financial support for the programme of work on incentive measures. The specific circumstances of countries, in particular of small island developing States, should be taken into consideration when providing financial support. Other funding sources should also be explored.

VII/10. ***Further development of guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment***

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Recommends* that the Conference of the Parties:

(a) *Endorses* the draft guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment on the basis of the draft contained in the annex to the present recommendation and identify ways and means for their further development or adjustment;

(b) *Urges* Parties, other Governments and organizations to apply the guidelines as appropriate in the context of their implementation of paragraph 1 of Article 14 of the Convention and share their experience, *inter alia*, through the clearing-house mechanism and national reporting;

(c) *Considers* requesting the Executive Secretary to prepare for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice prior to the seventh meeting of the Conference of the Parties, a programme of work in collaboration with the International Association for Impact Assessment and other relevant organizations including regional /international initiatives such as the Convention on Environmental Impact Assessment in a Transboundary Context, the European Union directives on habitats, birds, environmental impact assessment, and the assessment of the effects of certain plans and programmes on the environment, the Ramsar Convention on Wetlands, and in doing so, take into account capacity building and experiences gained in the context of thematic programmes of work and cross-cutting issues under the Convention on Biological Diversity;

(d) *Notes* that emphasis should be given in the work programme to, *inter alia*, the development of targets, criteria and indicators needed to screen projects, plans, programmes or policies, and ways and means, including public participation;

(e) *Requests* the Executive Secretary to compile and disseminate, through the clearing-house mechanism and other means of communication, current experiences in environmental impact assessment and strategic environmental assessment procedures that incorporate biodiversity-related issues, as well as experiences of Parties in applying the guidelines; in light of this information, to prepare proposals for further development and refinement of the guidelines, particularly to incorporate all stages of the environmental impact assessment and strategic environmental assessment processes taking into account the ecosystem approach (particularly principles 4, 7 and 8) and to provide a report of this work to the Subsidiary Body prior to the eight meeting of the Conference of the Parties;

2. *Requests* the Executive Secretary to forward the draft guidelines to the second meeting of the Ad Hoc Inter-Sessional Working Group on Article 8(j) and Related Provisions.

Annex

DRAFT GUIDELINES FOR INCORPORATING BIODIVERSITY-RELATED ISSUES INTO ENVIRONMENTAL IMPACT ASSESSMENT LEGISLATION AND/OR PROCESS AND IN STRATEGIC ENVIRONMENTAL ASSESSMENT

1. For the purpose of these guidelines, the following definitions are used for environmental impact assessment and strategic environmental assessment:

(a) *Environmental impact assessment* is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. Although legislation and practice vary around the world, the fundamental components of an environmental impact assessment would necessarily involve the following stages

(i) Screening to determine which projects or developments require a full or partial impact assessment study;

(ii) Scoping to identify which potential impacts are relevant to assess, and to derive terms of reference for the impact assessment;

(iii) Impact assessment to predict and identify the likely environmental impacts of a proposed project or development taking into account inter-related consequences of the project proposal, and the socio-economic impacts;

(iv) Identifying mitigation measures (including not proceeding with the development, finding alternative designs or sites which avoid the impacts, incorporating safeguards in the design of the project, or providing compensation for adverse impacts);

(v) Deciding whether to approve the project or not; and

(vi) Monitoring and evaluating the development activities, predicted impacts and proposed mitigation measures to ensure that unpredicted impacts or failed mitigation measures are identified and addressed in a timely fashion;

(b) *Strategic environmental assessment* is the formalized, systematic and comprehensive process of identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making on a par with economic and social considerations. 5/ Strategic environmental assessment, by its nature, covers a wider range of activities or a wider area and often over a longer time span than the environmental impact assessment of projects. Strategic environmental assessment might be applied to an entire sector (such as a national policy on energy for example) or to a geographical area, (for example, in the context of a regional development scheme). The basic steps of strategic environmental assessment are similar to the steps in environmental impact assessment procedures, 6/ but the scope differs. Strategic environmental assessment does not replace or reduce the need for project-level environmental impact assessment, but it can help to streamline the incorporation of environmental concerns (including biodiversity) into the decision-making process, often making project-level environmental impact assessment a more effective process.

5/ Based on Sadler and Verheem, 1996.

6/ Saddler and Verheem, 1996; South Africa, 2000; Nierynck, 1997 ; Nooteboom, 1999.

1. Purpose and approach

2. The objective of these draft guidelines is to provide general advice on incorporation of biodiversity considerations into new or existing environmental impact assessment procedures, noting that existing procedures take biodiversity into consideration in different ways. A draft framework has been developed to address the screening and scoping phases of environmental impact assessment. Further development of the framework will be required to address the incorporation of biodiversity into subsequent stages of the environmental impact assessment process, including impact assessment, mitigation, evaluation and monitoring, and into strategic environmental assessment.

3. Individual countries may redefine the steps in the procedure to their needs and requirements as befits their institutional and legal setting. The environmental impact assessment process, in order to be effective, should be fully incorporated into existing legal planning processes and not be seen as an "add-on" process.

4. As a prerequisite, the definition of the term "environment" in national legislation and procedures should fully incorporate the concept of biological diversity as defined by the Convention on Biological Diversity, such that plants, animals and micro-organisms are considered at the genetic, species/community and ecosystem/habitat levels, and also in terms of ecosystem structure and function.

5. With regard to biodiversity considerations, the ecosystem approach, as described in decision V/6 of the Conference of the Parties and taking into account any further elaboration of the concept within the framework of the Convention, is an appropriate framework for the assessment of planned action and policies. In accordance with the approach, the proper temporal and spatial scales of the problems should be determined as well as the functions of biodiversity and their tangible and intangible values for humans that could be affected by the proposed project or policy, the type of adaptive mitigation measures and the need for the participation of stakeholders in decision-making.

6. Environmental impact assessment procedures should refer to other relevant national, regional and international legislation, regulations, guidelines and other policy documents such as the national biodiversity strategy and action plan documents, the Convention on Biological Diversity and biodiversity-related conventions and agreements including, in particular, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals and the related agreements, the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, the Convention on Environmental Impact Assessment in a Transboundary Context; the United Nations Convention on the Law of the Sea; the European Union directives on environmental impact assessment, and the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources.

7. Consideration should be given to improving integration of national biodiversity strategy and action plans and national development strategies using strategic environmental assessment as a tool for such integration to promote the establishment of clear conservation targets through the national biodiversity strategy and action plan process and the use of those targets for the screening and scoping targets of environmental impact assessment and for developing mitigation measures.

2. Biodiversity issues at different stages of environmental impact assessment

(a) Screening

8. Screening is used to determine which proposals should be subject to impact assessment, to exclude those unlikely to have harmful environmental impacts and to indicate the level of environmental appraisal required. If screening criteria do not include biodiversity measures, there is a risk that proposals with potentially significant impacts on biodiversity will be screened out.

9. Since a legal requirement for environmental impact assessment on environmental grounds does not guarantee that biological diversity will be taken into account, consideration should be given to incorporating biodiversity criteria into existing or new screening criteria.

10. Types of existing screening mechanisms include:

(a) Positive lists identifying projects requiring environmental impact assessment. A few countries use (or have used) negative lists, identifying those projects not subject to environmental impact assessment. These lists should be reassessed to evaluate their inclusion of biodiversity aspects;

(b) Expert judgement (with or without a limited study, sometimes referred to as "initial environmental examination" or "preliminary environmental assessment"); and

(c) A combination of a positive list and expert judgement; for a number of activities an environmental impact assessment is more appropriate, for others an expert judgement may be desirable to determine the need for an environmental impact assessment.

11. The result of screening can be that:

(a) An environmental impact assessment is required,

(b) (i) A limited environmental study is sufficient because only limited environmental impacts are expected; the screening decision is based on a set of criteria with quantitative norms or threshold values;

(ii) There is still uncertainty whether an environmental impact assessment is required and an initial environmental examination has to be conducted to determine whether a project requires environmental impact assessment or not, and

(c) The project does not require an environmental impact assessment.

12. How to use these guidelines?

(a) Countries with a positive list identifying projects requiring environmental impact assessment should use, as appropriate, appendices I and II below for guidance on reconsidering their existing positive list with respect to biological diversity considerations. By assessing the possible impacts of categories of activities on biological diversity the existing list can be adjusted, if required;

(b) In countries where screening is based on expert judgement, experience has shown that professionals make screening decisions, often using "mini environmental impact assessment" to come to this decision. These guidelines, its appendices and other guidelines such as the information document submitted by the International Association for Impact Assessment (IAIA) help provide these professionals

with the means to come to a motivated, transparent and consistent screening decision. Furthermore, the expert teams should include professionals with biodiversity expertise;

(c) In countries where screening is based on a combination of a positive list and expert judgement, country-specific thematic or sector guidelines, often including quantitative norms or thresholds, facilitate the responsible people to make a well-founded and defendable decision. For biodiversity, thematic guidelines could be developed, 7/ sector guidelines need to be reviewed on biodiversity considerations.

The screening criteria

13. Screening criteria may relate to: (i) categories of activities, including thresholds referring to magnitude of the activity and/or size of the intervention area, duration and frequency or to (ii) a magnitude of biophysical change that is caused by the activity, or to (iii) maps indicating areas important for biodiversity with special legal status or of high biodiversity value and endemism, species patterns, breeding sites, or areas with species of high genetic value.

14. Determining norms or threshold values is partly a technical and partly a political process of which the outcome may vary for countries and for ecosystems. The technical process should at least provide a description of:

(a) Categories of activities that may affect biological diversity and the direct and indirect biophysical changes likely to result from these activities, taking into account characteristics like: type or nature of activity, magnitude, extent/location, timing, duration, reversibility/irreversibility, likelihood, and significance; possibility of interaction with other activities or impacts;

(b) Area of influence. Knowing the biophysical changes that result from an activity, the expected area of influence of these changes can be modelled or predicted, including the probability of off-site effects;

(c) Biodiversity maps indicating ecosystems and/or land-use types and their use and non-use values (showing the use and non-use values of biodiversity).

15. The process of developing a national biodiversity strategy and action plan can generate valuable information such as conservation priorities and targets which can guide further development of environmental impact assessment screening criteria. 8/ Appendix 2 below presents a generic list of criteria, intended to be a practical reference for further in-country development of criteria.

Pertinent questions for screening

16. Considering the objectives of the Convention on Biological Diversity, i.e., in particular, conservation, sustainable use and equitable sharing of benefits derived from biological diversity, fundamental questions need to be answered in an environment impact assessment study:

(a) Does the intended activity affect the physical environment in such a manner or cause such biological losses that it influences the chance of extinction of cultivars, varieties, populations of species, or the chance of loss of habitats or ecosystems?

7/ Some concrete targets are proposed in the note by the Executive Secretary on a proposal for a global strategy for plant conservation (UNEP/CBD/SBSTTA/7/10).

8/ Summarized in the IAIA information document by Treweek, 2001, box 2.

(b) Does the intended activity surpass the maximal sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum and minimum 9/ allowable disturbance level of a resource, population, or ecosystem?

(c) Does the intended activity result in changes to the access to and rights over biological resources?

17. To facilitate the development of criteria, the questions above have been reformulated for the three levels of diversity, reproduced in appendix 1 below.

(b) Scoping

18. Scoping narrows the focus of the broad issues found to be significant during the screening stage. It is used to derive terms of reference (sometimes referred to as guidelines) for environmental impact assessment. Scoping also enables the competent authority (or environmental impact assessment professionals in countries where scoping is voluntary):

(a) To guide study teams on significant issues and alternatives to be assessed, clarify how they should be examined (methods of prediction and analysis, depth of analysis), and according to which guidelines and criteria;

(b) To provide an opportunity for stakeholders to have their interests taken into account in the environmental impact assessment;

(c) To ensure that the resulting environmental impact statement is useful to the decision maker and is understandable to the public.

19. During the scoping phase promising alternatives can be identified for in-depth consideration during the environmental impact assessment study.

20. The following sequence provides an example of iterative mechanism for scoping, impact assessment and consideration of mitigation measures, which should be carried out with the help of existing information and the available knowledge among stakeholders:

(a) Describe the type of project, its nature, magnitude, location, timing, duration and frequency;

(b) Describe the expected biophysical changes in soil, water, air, flora and fauna;

(c) Describe biophysical changes that result from social change processes as a result of the proposed project;

(d) Determine the spatial and temporal scale of influence of each biophysical change;

(e) Describe ecosystems and land-use types potentially influenced by the biophysical changes identified;

(f) Determine for each ecosystem or land-use type if the biophysical changes affect one of the following components of biological diversity: the composition (what is there), the temporal/spatial

9/ For example, fire can be too frequent and too infrequent to sustain the integrity/health of a given ecosystem.

structure (how are biodiversity components organised in time and space), or key processes (how is biodiversity created and/or maintained);

(g) Identify in consultation with stakeholders the current and potential use-functions, non-use functions and other longer-term less tangible benefits of biological diversity provided by the ecosystems or land-use types and determine the values these functions represent for society (see appendix 3 for an indicative list of functions);

(h) Determine which of these functions will be significantly affected by the proposed project, taking into account mitigation measures;

(i) For each alternative, define mitigation and/or compensation measures to avoid, minimize or compensate the expected impacts;

(j) With the help of the biodiversity checklist on scoping (see appendix 4 below), determine which issues will provide information relevant to decision making and can realistically be studied;

(k) Provide information on the severity of impacts, i.e. apply weights to the expected impacts for the alternatives considered. Weigh expected impacts to a reference situation (baseline), which may be the existing situation, a historical situation, or an external reference situation.

(l) Identify necessary surveys to gather comprehensive information about the biological diversity in the affected area where appropriate.

21. The expected impacts of the proposed activity, including identified alternatives, should be compared with the selected reference situation and with the autonomous development (what will happen with biodiversity over time if the project is not implemented). There should be awareness that doing nothing may in some cases also have significant effects on biological diversity, sometimes even worse than the impacts of the proposed activity (e.g. projects counteracting degradation processes).

22. At present, evaluation criteria for biological diversity, especially at ecosystem level, are under-developed and need serious attention when developing in-country mechanisms to incorporate biodiversity in environmental impact assessment.

(c) Impact analysis and assessment

23. Environmental impact assessment should be an iterative process of assessing impacts, redesigning alternatives and comparison. The main tasks of impact analysis and assessment are:

(a) Refinement of the understanding of the nature of the potential impacts identified during screening and scoping and described in the terms of reference. This includes the identification of indirect and cumulative impacts, and of the likely causes of the impacts (impact analysis and assessment). Identification and description of relevant criteria for decision-making can be an essential element of this period;

(b) Review and redesign of alternatives; consideration of mitigation measures; planning of impact management; evaluation of impacts; and comparison of the alternatives; and

(c) Reporting of study results in a environmental impact statement.

24. Assessing impacts usually involves a detailed analysis of their nature, magnitude, extent and effect, and a judgement of their significance, i.e., whether the impacts are acceptable to stakeholders, require mitigation, or are just unacceptable. Biodiversity information available is usually limited and descriptive and cannot be used as a basis for numerical predictions. There is a need to develop or compile biodiversity criteria for impact evaluation and to have measurable standards or objectives against which the significance of individual impacts can be evaluated. The priorities and targets set in the national biodiversity action plan and strategy process can provide guidance for developing these criteria. Tools will need to be developed to deal with uncertainty, including criteria on using risk assessment techniques, precautionary approach and adaptive management.

(d) Consideration of mitigation measures

25. If the evaluation process concludes that the impacts are significant, the next stage in the process is to propose mitigation ideally drawn together into an "environmental management plan". The purpose of mitigation in environmental impact assessment is to look for better ways to implement project activities so that negative impacts of the activities are avoided or reduced to acceptable levels and the environmental benefits are enhanced, and to make sure that the public or individuals do not bear costs which are greater than the benefits which accrue to them. Remedial action can take several forms, i.e. avoidance (or prevention), mitigation (including restoration and rehabilitation of sites), and compensation (often associated with residual impacts after prevention and mitigation).

(e) Reporting: the environmental impact statement (EIS)

26. The environmental impact statement is designed to assist: (i) the proponent to plan, design and implement the proposal in a way that eliminates or minimizes the negative effect on the biophysical and socio-economic environments and maximizes the benefits to all parties in the most cost effective manner; (ii) the Government or responsible authority to decide whether a proposal should be approved and the terms and conditions that should be applied; and (iii) the public to understand the proposal and its impacts on the community and environment and provide an opportunity for comments on the proposed action for consideration by decision makers. Some adverse impacts may be wide ranging and have effects beyond the limits of particular habitats/ecosystems or national boundaries. Therefore, environmental management plans and strategies contained in the environmental impact statement should consider regional and transboundary impacts, taking into account the ecosystem approach.

(f) Review

27. The purpose of review of the environmental impact statement is to ensure that the information for decision makers is sufficient, focused on the key issues, scientifically and technically accurate, and if the likely impacts are acceptable from an environmental viewpoint and the design complies with relevant standards and policies, or standards of good practice where official standards do not exist. The review should also consider whether all of the relevant impacts of a proposed activity have been identified and adequately addressed in the environmental impact assessment. To this end, biodiversity specialists should be called upon for the review and information on official standards and/or standards for good practice to be compiled and disseminated.

28. Public involvement, including minority groups, is important in various stages of the process and particularly at this stage. The concerns and comments of all stakeholders are considered and included in the final report presented to decision makers. The process establishes local ownership of the proposal and promotes a better understanding of relevant issues and concerns.

29. Review should also guarantee that the information provided in the environmental impact statement is sufficient for a decision maker to determine whether the project is compliant with or contradictory to the objectives of the Convention on Biological Diversity.

(g) Decision-making

30. Decision-making takes place throughout the process of environmental impact assessment in a incremental way from the screening and scoping stages to decisions during data-collecting and analysis, and impact prediction to making choices between alternatives and mitigation measures and finally the decision between refusal or authorization of the project. Biodiversity issues should play a part in decision-making throughout. This final decision is essentially a political choice about whether or not the proposal is to proceed, and under what conditions. If rejected, the project can be redesigned and resubmitted. It is desirable that the proponent and the decision-making body are two different entities.

31. The precautionary approach should be applied in decision-making in cases of scientific uncertainty about risk of significant harm to biodiversity. As scientific certainty improves, decisions can be modified accordingly.

(h) Monitoring and environmental auditing

32. Monitoring and auditing are used to see what actually occurs after project implementation has started. Predicted impacts on biodiversity should be monitored, as should the effectiveness of mitigation measures proposed in the environmental impact assessment. Proper environmental management should ensure that anticipated impacts are maintained within predicted levels, and unanticipated impacts are managed before they become a problem and the expected benefits (or positive developments) are achieved as the project proceeds. The results of monitoring provide information for periodic review and alteration of environmental management plans, and for optimizing environmental protection through good practice at all stages of the project. Biodiversity data generated by environmental impact assessment should be made accessible and useable by others and should be linked to biodiversity assessment processes being designed and carried out under the Convention on Biological Diversity.

33. An environmental audit is an independent examination and assessment of a project's (past) performance, is part of the evaluation of the environmental management plan and contributes to the enforcement of EIA approval decisions.

3. Incorporation of biodiversity considerations in strategic environmental assessments

34. The guidelines proposed for the integration of biodiversity in environmental impact assessment are also applicable to strategic environmental assessment, taking into account that for the latter type of assessment, biological diversity concerns should be considered from the early stages of the drafting process, including when developing new legislative and regulatory frameworks (decision V/18, paras. 1(c) and 2 (a)), and at the decision-making and/or environmental planning levels (decision V/18, para. 2 (a)), and that strategic environmental assessments by their nature cover policies and programmes, a wider range of activities over a wider area.

35. Strategic environmental assessment, while not a new process, is not practised as widely as environmental impact assessment. As experience accumulates in countries, it may then be necessary to draw more specific guidelines for the incorporation of biodiversity in the process.

4. Ways and means

(a) Capacity-building

36. Any activity aimed at the incorporation of biodiversity considerations into national environmental impact assessment systems should be accompanied by appropriate capacity development activities. Expertise in taxonomy, 10/ conservation biology, ecology, and traditional knowledge is required as well as local expertise in methodologies, techniques and procedures. Environmental impact assessments should involve ecologists with extensive knowledge on the relevant ecosystem(s) in the assessment team.

37. It is also recommended to develop training workshops on biodiversity and environmental impact/strategic environmental assessment for both assessment practitioners and biodiversity specialists to build a common understanding of the issues. School and university curricula should be reviewed to ensure that they incorporate material on biodiversity conservation, sustainable development and environmental impact/strategic environmental assessment.

38. Biodiversity-relevant data should be organized in regularly updated and accessible databases, making use of rosters of biodiversity experts.

(b) Legislative authority

39. If environmental impact assessment and strategic environmental assessment procedures are incorporated into legislation, and the requirements for project/policy developers to find the most environmentally sound, efficient options that avoid, reduce or mitigate biodiversity and other adverse impacts are made explicit, this will prompt developers to, at a very early stage, use environmental impact assessment tools to improve the development process prior to the project consent stage or in some cases prior to screening procedures.

(c) Participation

40. Relevant stakeholders or their representatives, and in particular indigenous and local communities should be involved in the development of guidelines or recommendations for environmental impact assessments as well as throughout the assessment processes relevant to them, including decision-making.

(d) Incentives

41. The possible link between impact assessment and incentive measures is pointed out in decision III/18 of the Conference of the Parties, on incentive measures. In paragraph 6 of that decision, the Conference of the Parties encouraged Parties to incorporate biological diversity considerations into impact assessments as a step in the design and implementation of incentive measures. The endorsement of the impact assessment process and its implementation within a legislative framework can act as an incentive, especially if applied at the policy level, to protect and, in certain cases even restore and rehabilitate biological diversity. 11/ Financial or other incentives can also be part of a negotiated approval package for a project.

10/ See the Global Taxonomy Initiative and the proposed programme of work (decision V/9 of the Conference of the Parties and SBSTTA recommendation VI/6)

11/ UNEP/CBD/COP/4/20 and UNEP/CBD/SBSTTA/4/10.

(e) Cooperation

42. Regional collaboration is of particular importance, including for the development of criteria and indicators for the evaluation of impact and possibly criteria and indicators that can provide early warning of potential threats and adequately distinguish the effects of anthropogenic activities from natural processes, and the use of standardized methods of collection, assembly and exchange of information is needed to ensure regional compatibility and accessibility of data. Guidelines and sharing of information and experiences should be made available through, *inter alia*, the Convention's clearing-house mechanism.

43. As a follow-up to the implementation of decision IV/10 C of the Conference of the Parties, collaboration between the Convention on Biological Diversity and other biodiversity-related conventions, including in particular the Ramsar Convention and the Convention on Migratory Species, which have listed sites and binding agreements on certain species, and other relevant organizations and bodies will facilitate the development and implementation of any guidelines agreed upon for the integration of biodiversity-related issues in environmental impact assessment and strategic environmental assessment. Such a collaborative approach, also embodied in resolution VII.16 of the Conference of the Parties to the Ramsar Convention ("The Ramsar Convention and impact assessment: strategic, environmental and social"), could lead to the development of an umbrella set of guidelines on impact assessment for biodiversity-related conventions.

44. Web-based resources such as the clearing-house mechanism of the Convention on Biological Diversity may help to raise awareness about best available methods and useful sources of information and experience, and should be developed and used for the provision and exchange of information on environmental impact assessment.

45. Communication between practitioners of environmental impact assessment and scientists working in the biodiversity domain is in urgent need of improvement and should be enhanced through workshops and case-study assessments. 12/

Appendix 1

QUESTIONS PERTINENT TO SCREENING ON BIOLOGICAL DIVERSITY IMPACTS

Level of diversity	*Biological diversity perspective*	
	Conservation of biological diversity *(Non-use values)*	*Sustainable use of biodiversity* *(Use values)*
Genetic diversity (1)	(I) Does the intended activity cause a local loss of varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance?	
Species diversity (2)	(II) Does the intended activity cause a direct or indirect loss of a population of a species?	(III) Does the intended activity affect the sustainable use of a population of a species?

12/ See UNEP/CBD/COP/5/INF/34.

Ecosystem diversity [2]	(IV) Does the intended activity lead to serious damage or total loss of (an) ecosystem(s) or land-use type(s), thus leading to a loss of ecosystem diversity (i.e. the loss of indirect use values and non-use values)?	(V) Does the intended activity affect the sustainable exploitation of (an) ecosystem(s) or land-use type(s) by humans in such manner that the exploitation becomes destructive or non-sustainable (i.e. the loss of direct use values)?

(1) The potential loss of natural genetic diversity (genetic erosion) is extremely difficult to determine, and does not provide any practical clues for formal screening. The issue probably only comes up when dealing with highly threatened, legally protected species which are limited in numbers and/or have highly separated populations (rhinoceros, tigers, whales, etc.), or when complete ecosystems become separated and the risk of genetic erosion applies to many species (the reason to construct so-called eco-ducts across major line infrastructure). These issues are dealt with at species or ecosystem level.

(2) Species diversity: The level at which "population" is to be defined fully depends on the screening criteria used by a country. For example, in the process of obtaining a special status, the conservation status of species can be assessed within the boundaries of a country (for legal protection), or can be assessed globally (IUCN Red Lists). Similarly, the scale at which ecosystems are defined depends on the definition of criteria in a country.

Appendix 2

THE SCREENING CRITERIA

This is a suggested outline of a set of screening criteria, to be elaborated on country level. It only deals with biodiversity criteria and thus is an add-on to already existing screening criteria.

Category A: Environmental impact assessment mandatory:

Only in the case criteria can be based on formal legal backing, such as:

- National legislation, for example in case of impact on protected species and protected areas;
- International conventions such as CITES, the Convention on Biological Diversity, Ramsar Convention on Wetlands, etc.;
- Directives from supranational bodies, such as the European Union directive 92/43/EEC of 21 May 1992 on conservation of natural habitats and of wild fauna and flora and directive 79/409/EEC on the conservation of wild birds

Indicative list of activities for which an environmental impact assessment could be mandatory:

(a) **At the genetic level** (relates to screening question I in appendix 1 above):

- Directly or indirectly cause a local loss of legally protected varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance e.g. by introducing living modified organisms that can transfer transgenes to legally protected varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives

(b) **At species level** (relates to screening question II and III in appendix 1 above):

- Directly affect legally protected species, for example by extractive, polluting or other disturbing activities;
- Indirectly affect legally protected species, for example by reducing its habitat, altering its habitat in such a manner that its survival is threatened, introducing predators, competitors or parasites of protected species, alien species or GMOs;
- Directly or indirectly affect all of the above for cases which are important in respect of e.g. stop-over areas for migratory birds, breeding grounds of migratory fish, commercial trade in species protected by CITES.
- Directly or indirectly affect non-legally protected, threatened species.

(c) **At ecosystem level** (screening questions IV and V in appendix 1 above):

- Are located in legally protected areas ;

- Are located in the vicinity of legally protected areas;

- Have direct influence on legally protected areas, for example by emissions into the area, diversion of surface water that flows through the area, extraction of groundwater in a shared aquifer, disturbance by noise or lights, pollution through air.

Category B: The need for, or the level of environmental impact assessment, is to be determined:

In cases where there is no legal basis to require an environmental impact assessment, but one can suspect that the proposed activity may have a significant impact on biological diversity, or that a limited study is needed to solve uncertainties or design limited mitigation measures. This category covers the frequently referred to but difficult to use concept of "sensitive areas". As long as so-called sensitive areas do not have any legal protected status it is difficult to use the concept in practice, so a more practical alternative is provided.

The following categories of criteria point towards possible impacts on biological diversity, and further attention is thus required:

(a) **Activities in, or in the vicinity of, or with influence on areas with legal status having a probable link to biological diversity but not legally protecting biological diversity** (*relates to all five screening questions in appendix 1 above*). For example: a Ramsar site has the official recognition of having internationally important wetland values, but this recognition does not automatically imply legal protection of biological diversity in these wetlands). Other examples include areas allocated to local and indigenous communities, extractive reserves, landscape preservation areas, sites covered by international treaties or conventions for preservation of natural and/or cultural heritage such as the UNESCO biosphere reserves and World Heritage Sites;

(b) **Impacts on biological diversity possible or likely, but the environmental impact assessment is not necessarily triggered by law:**

(i) **At the genetic level:**

- Replacing agricultural, forestry or fishery varieties or breeds by new varieties, including the introduction of living modified organisms (LMOs) (*screening questions I and II*).

(ii) **At the species level:**

- All introductions of non-indigenous species (*questions II and III*);

- All activities which directly or indirectly affect sensitive or threatened species if or in case these species are not yet protected (good reference for threatened species is provided by the IUCN Red Lists); sensitive species may be endemic, umbrella species, species at the edge of their range, or with restricted distributions, rapidly declining species (*question II*). Particular attention should be given to species which are important in local livelihoods and cultures;

- All extractive activities related to the direct exploitation of species (fisheries, forestry, hunting, collecting of plants (including living botanical and zoological resources), etc.) (*question III*)

- All activities leading to reproductive isolation of populations of species (such as line infrastructure) (*question II*)

(iii) **At the ecosystem level:**

- All extractive activities related to the use of resources on which biological diversity depends (exploitation of surface and groundwater, open pit mining of soil components such as clay, sand, gravel, etc.) (*questions IV and V*);

- All activities involving the clearing or flooding of land (*questions IV and V*);

- All activities leading to pollution of the environment (*questions IV and V*);

- Activities leading to the displacement of people (*questions IV and V*);

- All activities leading to reproductive isolation of ecosystems (*question IV*);

- All activities that significantly affect ecosystem functions that represent values for society (see appendix 3 below for a list of functions provided by nature). Some of these functions depend on relatively neglected taxa;

- All activities in areas of known importance for biological diversity (*questions IV and V*), such as areas containing high diversity (hot spots), large numbers of endemic or threatened species, or wilderness; required by migratory species; of social, economic, cultural or scientific importance; or which are representative, unique (e.g. where rare or sensitive species occur) or associated with key evolutionary or other biological processes.

Category C: no environmental impact assessment required

Activities which are not covered by one of the categories A or B, or are designated as category C after initial environmental examination.

The generic nature of these guidelines does not allow for the positive identification of types of activities or areas where environmental impact assessment from a biodiversity perspective is not needed. At country level, however, it will be possible to indicate geographical areas where biological diversity considerations do not play a role of importance and, conversely, areas where they do play an important role (biodiversity-sensitive areas).

Appendix 3

INDICATIVE LIST (NON-EXHAUSTIVE) OF EXAMPLES OF FUNCTIONS OF THE NATURAL ENVIRONMENT THAT ARE DIRECTLY (FLORA AND FAUNA) OR INDIRECTLY (SERVICES PROVIDED BY ECOSYSTEMS SUCH AS WATER SUPPLY) DERIVED FROM BIOLOGICAL DIVERSITY.

Production functions

Natural production

- Timber production
- Firewood production
- Production of harvestable grasses (construction & artisanal use)
- Naturally produced fodder & manure
- Harvestable peat
- Secondary (minor) products
- Harvestable bush meat (food)
- Fish and shellfish productivity
- Drinking water supply
- Supply of water for irrigation and industry
- Water supply for hydroelectricity
- Supply of surface water for other landscapes
- Supply of ground water for other landscapes

Nature-based human production

- Crop productivity
- Tree plantations productivity
- Managed forest productivity
- Rangeland/livestock productivity
- Aquaculture productivity (freshwater)
- Mariculture productivity (brackish/saltwater)

Carrying functions

- Suitability for constructions
- Suitability for indigenous settlement
- Suitability for rural settlement
- Suitability for urban settlement
- Suitability for industry
- Suitability for infrastructure
- Suitability for transport infrastructure
- Suitability for shipping / navigation
- Suitability for road transport
- Suitability for rail transport
- Suitability for air transport
- Suitability for power distribution
- Suitability for use of pipelines
- Suitability for leisure and tourism activities
- Suitability for nature conservation

Processing and regulation functions

Land-based processing and regulation functions

- Decomposition of organic material (land based)
- Natural desalinization of soils
- Development / prevention of acid sulphate soils
- Biological control mechanisms
- Seasonal cleansing of soils
- Soil water storage capacity
- Coastal protection against floods
- Coastal stabilization (against accretion / erosion)
- Soil protection

Water related processing and regulation functions

- Water filtering function
- Dilution of pollutants function
- Discharge of pollutants function
- Flushing / cleansing function
- Bio-chemical/physical purification of water
- Storage for pollutants function
- Flow regulation for flood control

- River base flow regulation
- Water storage capacity
- Ground water recharge capacity
- Regulation of water balance
- Sedimentation / retention capacity
- Protection against water erosion
- Protection against wave action
- Prevention of saline groundwater intrusion
- Prevention of saline surface-water intrusion
- Transmission of diseases

Air-related processing and regulation functions

- Filtering of air
- Carry off by air to other areas
- Photo-chemical air processing (smog)
- Wind breaks
- Transmission of diseases
- Carbon sequestration

Biodiversity-related regulation functions

- Maintenance of genetic, species and ecosystem composition
- Maintenance of horizontal and vertical spatial structure, and of temporal structure
- Maintenance of key processes for structuring or maintaining biological diversity
- Maintenance of pollinator services

Signification functions

Cultural/religious/scientific/landscape functions

Appendix 4

BIODIVERSITY CHECKLIST ON SCOPING FOR THE IDENTIFICATION OF THE IMPACTS OF PROPOSED PROJECTS ON COMPONENTS OF BIODIVERSITY (NOT EXHAUSTIVE).

		COMPONENTS OF BIOLOGICAL DIVERSITY			
		Composition	***Structure (temporal)***	***Structure (spatial: horizontal and vertical)***	***Key processes***
LEVELS OF BIOLOGICAL DIVERSITY	**Genetic diversity**	▪ Minimal viable population (avoid destruction by inbreeding / gene erosion) ▪ Local cultivars. ▪ Living modified organisms.	▪ Cycles with high and low genetic diversity within a population.	▪ Dispersal of natural genetic variability ▪ Dispersal of agricultural cultivars.	▪ Exchange of genetic material between populations (gene flow) ▪ Mutagenic influences ▪ Intraspecific competition
	Species diversity	▪ Species composition, genera, families etc, rarity / abundance, endemism / exotics ▪ Population size and trends ▪ Known key species (essential role) ▪ Conservation status	▪ Seasonal, lunar, tidal, diumal rhythms (migration, breeding, flowering, leaf development, etc.) ▪ Reproductive rate, fertility, mortality, growth rate. ▪ Reproductive strategy.	▪ Minimal areas for species to survive. ▪ Essential areas (stepping stones) for migrating species. ▪ Niche requirements within ecosystem (substrate preference, layer within ecosystem) ▪ Relative or absolute isolation	▪ Regulation mechanisms such as predation, herbivory, parasitism,. ▪ Interactions between species. ▪ Ecological function of a species
	Ecosystem diversity	▪ Types and surface area of ecosystems ▪ Uniqueness / abundance ▪ Succession stage, existing disturbances and trends (=autonomous development)	▪ Adaptations to / dependency ***on*** regular rhythms: seasonal ▪ Adaptations to / dependency of ***on*** irregular events: droughts, floods, frost, fire, wind ▪ Succession (rate)	▪ Spatial relations between landscape elements (local and remote) ▪ Spatial distribution (continuous or discontinuous / patchy); ▪ Minimal area for ecosystem to survive. ▪ Vertical structure (layered, horizonts, stratified).	▪ Structuring process(es) of key importance for the maintenance of the ecosystem itself or for other ecosystems.

VII/11. ***Designing national -level monitoring programmes and indicators***

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Takes note* of the progress report on ongoing work on indicators (UNEP/CBD/SBSTTA/7/12);

2. *Recommends* that the Conference of the Parties:

(a) *Requests* the Executive Secretary to report on the development of indicators in all the thematic areas and cross cutting issues to the Subsidiary Body on Scientific, Technical and Technological Advice prior to the seventh meeting of the Conference of the Parties;

(b) *Urges* Parties that have yet not done so to respond to the questionnaire on the subject of indicators that was sent by the Executive Secretary in May 2001 so as to enable the Executive Secretary to update the analysis;

(c) *Requests* the Executive Secretary to convene a meeting of an expert group that is broadly representative of experts from both United Nations and biogeographical regions. The meeting should further develop three annexes to the Executive Secretary on ongoing work on indicators on: (i) principles for developing national-level monitoring and indicators; (ii) a set of standard questions for developing national–level indicators; and (iii) a list of available and potential indicators based on a conceptual framework that has qualitative and quantitative approach and report to a meeting of the Subsidiary Body on Scientific, Technical and Technological Advice prior to the seventh meeting of the Conference of Parties. In doing so, the Executive Secretary should take into account the specific comments of delegates in the seventh meeting of the Subsidiary Body on Scientific, Technical and Technological Advice and the following guidance:

(i) Give particular attention to the note by the Executive Secretary on recommendations for a core set of indicators on biological diversity prepared for the third meeting of the Subsidiary Body (UNEP/CBD/SBSTTA/3/9) and background paper prepared for the same meeting by the liaison group on indicators of biological diversity (UNEP/CBD/SBSTTA/3/INF.13) and subsequent related papers;

(ii) Consider development and segregation of the key questions contained in annex II to the note by the Executive Secretary on ongoing work on indicators (UNEP/CBD/SBSTTA/7/12) according to the three levels of biodiversity, and reorder them to correspond to articles of the convention as far as possible, and give attention to the use of early warning indicators;

(iii) Consider organizing the list of indicators in two levels: (a) a set of core indicators to be related to the thematic areas or policy instruments and initiatives. Indicators should be policy relevant and related to the target setting (including regional targets) in programmes of work of the Convention on Biological Diversity, and describe status and trends of biological diversity, and (b) headline indicators to assess overall effectiveness of implementation of the Convention on Biological Diversity;

(iv) Consider developing and organizing the list of indicators for each thematic area grouped as drivers, pressure, state, impact and response;

(v) Regional approaches to indicator development should be promoted in order to assess the status and trends of biodiversity. For the development of the set of indicators, there is a

need for harmonization and collaboration with regional and international initiatives, including the Organisation for Economic Co-operation and Development, the Commission on Sustainable Development, the Ramsar Convention on Wetlands, the Pan-European processes (the Pan-European Biological and Landscape Strategy and the Ministerial Conference on the Protection of Forests in Europe), the Montreal process on criteria and indicators for the conservation and sustainable management of temperate and boreal forests, the Food and Agriculture Organization of the United Nations and the United Nations Forum on Forests.

VII/12. *Topics for future work*

The Subsidiary Body on Scientific, Technical and Technological Advice,

Noting that the following topics were proposed as potential main themes for the eighth and subsequent meetings of the Conference of the Parties:

(a) Restoration and rehabilitation of degraded ecosystems and recovery of rare and threatened species;

(b) The importance of biodiversity for human health;

(c) Importance of biosecurity in preserving biodiversity through the control of invasive alien species;

(d) The role of biodiversity in natural disaster prevention and relief;

(e) Island biodiversity; and

(f) Biodiversity of urban and peri-urban areas,

1. *Invites* Parties to provide to the Executive Secretary, by March 2002, comments on these possibilities, and/or additional suggestions, as appropriate, for inclusion in an information document to be made available to the Conference of the Parties at its sixth meeting;

2. *Invites* the Conference of Parties, when considering its programme of work, to take into account these suggestions, as potential topics for in-depth discussion by the Conference of the Parties at its eighth and/or ninth meetings.

VII/13. *Global Biodiversity Outlook*

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling decision II/1 of the Conference of the Parties,

Recommends that the Conference of the Parties at its sixth meeting:

(a) Commends the Executive Secretary for the publication of the Global Biodiversity Outllook;

(b) Decides that the next Global Biodiversity Outlook be prepared by the Executive Secretary, on the basis of the information contained in the second national reports and thematic reports referred to in decision V/19 of the Conference of the Parties, for publication in 2004.

Annex II

PROVISIONAL AGENDAS FOR THE EIGHTH AND NINTH MEETINGS OF THE SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE

A. Provisional agenda for the eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice

1. Opening of the meeting.
2. Organizational matters:
   - 2.1. Election of officers;
   - 2.2. Adoption of the agenda;
   - 2.3. Organization of work.
3. Reports:
   - 3.1 Operations of the Subsidiary Body on Scientific, Technical and Technological Advice:
     - (a) Strategic Plan; and
     - (b) Assessment of recommendations;
   - 3.2. Ad hoc technical expert groups;
   - 3.3. Invasive alien species;
   - 3.4. Global plant conservation strategy.
4. Main theme: mountain biological diversity.
5. Other substantive issues:
   - 5.1 Scientific assessments: results of the pilot projects;
   - 5.2. Inland water ecosystems: review, further elaboration and refinement of the programme of work;
   - 5.3. Marine and coastal biological diversity: review of the Jakarta Mandate;
   - 5.4. Dry and sub-humid lands biodiversity: matters requested by the Conference of the Parties in paragraphs 5 and 6 of its decision V/23.
6. Preparation for the ninth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice:
   - 6.1. Draft provisional agenda;
   - 6.2. Dates and venue.
7. Other matters.
8. Adoption of the report.
9. Closure of the meeting.

B. Provisional agenda for the ninth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice

1. Opening of the meeting.
2. Organizational matters:
   - 2.1. Election of officers;
   - 2.2. Adoption of the agenda;
   - 2.3. Organization of work.
3. Reports:
   - 3.1. Ad hoc technical expert groups and assessment processes;
   - 3.2. Global Taxonomy Initiative;
   - 3.3. Forest biological diversity;
   - 3.4. Climate change and biological diversity.
4. Main theme: protected areas.
5. Other substantive issues:
   - 5.1. Ecosystem approach: further elaboration and guidelines for implementation;
   - 5.2. Sustainable use: development of practical principles, operational guidance and associated instruments;
   - 5.3. Monitoring and indicators;
   - 5.4. Scientific, technical and technological aspects of transfer of technology and technology cooperation.
6. Preparation for the tenth and eleventh meetings of the Subsidiary Body on Scientific, Technical and Technological Advice:
   - 6.1. Draft provisional agendas;
   - 6.2. Dates and venues.
7. Other matters.
8. Adoption of the report.
9. Closure of the meeting.
