

Annex I

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

VIII/1. Main theme: mountain biodiversity

A. Programme of work on mountain biological diversity

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Welcomes* the notes by the Executive Secretary on status and trends of, and threats to, mountain biological diversity (UNEP/CBD/SBSTTA/8/5), and on measures taken for the conservation and sustainable use of mountain biological diversity (UNEP/CBD/SBSTTA/8/6);
2. *Adopts* the structure of the proposed programme of work on mountain biological diversity, with its elements and goals, as specified in annex I;
3. *Establishes* an Ad Hoc Technical Expert Group on Mountain Biological Diversity to assist the Subsidiary Body on Scientific, Technical and Technological Advice, on the basis of the terms specified in annex II to the present recommendation, in its further work on mountain biological diversity before the seventh meeting of the Conference of the Parties. To the extent possible, members shall be selected from those delegates that attended the eighth meeting of the Subsidiary Body, which took place in Montreal from 10 to 14 March 2003;
4. *Requests* the Executive Secretary to consult with Parties, Governments and relevant organizations on the proposed programme of work on mountain biological diversity contained in annex I to the present recommendation. The result of this consultation will be a list of actions for possible inclusion in the proposed programme of work on mountain biological diversity, and will serve as inputs for the work of the Ad Hoc Technical Expert Group on Mountain Biological Diversity in order to carry out its mandate as stated in annex II to the present recommendation.

Annex I

PROGRAMME OF WORK ON MOUNTAIN BIOLOGICAL DIVERSITY

A. Introduction

1. Mountain areas cover almost one quarter of the Earth's land surface and host about 12% of its human inhabitants. Additionally, mountains provide vital natural resources for lowland peoples. Mountains are both a unique environment in their own right, and one that incorporates many of the existing thematic programmes under the Convention. For example, forests, inland waters, dry and sub-humid lands and agricultural programme elements can all be found in mountain biological diversity. The present programme of work on mountain biological diversity features goals and activities that are specific to mountain biological diversity, although the existing programmes of work on forests, inland waters, agricultural, and dry and sub-humid land biological diversity also apply to mountain ecosystems. Therefore, the goals and activities contained in the existing programmes of work of each of these thematic areas should also be applied and implemented, whenever appropriate, for their respective areas in mountain ecosystems.
2. Mountain biological diversity is of high importance for a number of ecological functions. The integrity of soils is the prime focus for ecosystem services and human needs. Soil retention and slope

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stability are closely connected with the extent of above-ground and below-ground vegetation, both essential to ecosystem resilience after disturbance. The high plant functional diversity of mountain ecosystems may also add to their resiliency and, should extreme disturbances occur, often provides effective barriers to high-energy events such as rock falls and avalanches. It also may reduce extensive damage levels at lower elevations. Although it has been to date impossible to provide a thorough definition of mountains with both universal application and acceptance, there are a number of characteristics that are unique to mountain ecosystems. These are referred to in the note by the Executive Secretary on the status and trends of, and threats to, mountain biodiversity prepared for the eighth meeting of SBSTTA (UNEP/CBD/SBSTTA/8/5).

3. Information and input from international forums may also be taken into account. In particular, chapter 13 of Agenda 21 that relates to sustainable mountain development, and the World Summit on Sustainable Development which also considered mountain ecosystems. Paragraph 42 of the Plan of Implementation of the World Summit states that “mountain ecosystems support particular livelihoods, and include significant watershed resources, biological diversity and unique flora and fauna. Many are particularly fragile and vulnerable to the adverse effects of climate change and need specific protection”. The Plan of Implementation proposed a number of specific actions to be undertaken in regard to mountains. The 2002 International Year of the Mountains also provides valuable input. In addition, a number of international agreements and bodies, institutions, and program initiatives may be considered such as the Ramsar Convention, the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Centre for Integrated Mountain Development (ICIMOD), the International Centre for Agricultural Research in the Dry Areas (ICARDA), the International Partnership for Sustainable Development in Mountain Regions, the International Human Dimensions Programme on Global Environmental Change (IHDP), the Centre for Mountain Studies, the Consorcio para el Desarrollo de la Ecoregion Andina (CONDESAN), the Mountain Research Initiative (MRI), the Global Mountain Biodiversity Assessment (GMBA) of DIVERSITAS, the International Union of Forest Research Organizations (IUFRO), the Alpine Convention, and the World Conservation Monitoring Centre (WCMC).

B. Overall purpose and scope of the programme of work

4. The overall purpose of the programme of work is the significant reduction of mountain biological diversity loss by 2010 at global, regional and national levels through the implementation of the three main objectives of the Convention on Biological Diversity.

5. The implementation of the programme of work aims at making a significant contribution to poverty alleviation in mountain ecosystems and in lowlands dependent on the goods and services of mountain ecosystems and thereby contribute to the objectives of the Strategic Plan of the Convention on Biological Diversity, the Plan of Implementation of the World Summit on Sustainable Development, and the Millennium Development Goals.

6. The programme of work focuses on addressing characteristics and problems that are specific to mountain biological diversity. These include:

(a) The particularly high concentration of biological diversity hotspots in mountain regions, including high ecosystem diversity, high species richness, high number of endemic and endangered species, and high genetic diversity of crop, livestock, and their wild relatives;

(b) The fragility of mountain ecosystems and species and their vulnerability to human and natural disturbances, in particular to land use change and global climate change;

(c) The upland-lowland interactions that characterize mountain ecosystems, in particular with relation to water and soil resources;

(d) High levels of cultural diversity, and the particularly key role of indigenous and local communities in the conservation and management of mountain biological diversity.

7. The programme of work also seeks to avoid duplication with existing thematic work programmes and other existing initiatives of the Convention on Biological Diversity. Parties are encouraged to apply where appropriate the objectives and activities from these thematic work programmes to the conservation of mountain biological diversity, the sustainable use of mountain biological diversity, and the equitable sharing of benefits arising from the utilization of genetic resources.

8. The programme of work is intended to assist Parties in establishing national programmes of work with targeted goals, objectives, and actions, with specific actors, timeframes, inputs, and expected measurable outputs. Parties may select from, adapt, and/or add to, the goals, objectives and actions suggested in the current programme of work according to particular national and local conditions, and their level of development. Implementation of this programme of work should take into account the ecosystem approach of the Convention on Biological Diversity. In determining national programmes of work, Parties are encouraged to pay due regard to the social, economic, and environmental costs and benefits of various options. In addition, Parties are encouraged to consider the use of appropriate technologies, sources of finance, and technical cooperation, and to ensure, through appropriate actions, the means to meet the particular challenges and demands of their mountain ecosystems.

PROGRAMME ELEMENT 1: DIRECT ACTIONS FOR CONSERVATION, SUSTAINABLE USE AND BENEFIT SHARING

Goal 1.1: To prevent and mitigate the negative impacts of key threats to mountain biological diversity

Suggested actions

- 1.1.1. Assess and address both local and long-range pollution issues.
- 1.1.2. Assess and address inappropriate land use practices in mountain ecosystems.
- 1.1.3. Implement actions directed at maintaining and/or enhancing soil stability, and soil ecological integrity.
- 1.1.4. Prevent and mitigate the negative impacts of economic development and enhance positive impacts of such development on mountain biological diversity through the adequate treatment of biological diversity in environmental, social, and cultural assessments at sectoral, programme, and project level, taking into account cumulative impacts.
- 1.1.5. Prevent the introduction of alien species that threaten mountain ecosystems and mitigate their negative impacts on mountain biological diversity in accordance with international law.
- 1.1.6. Mitigate the impacts of global climate change on mountain biological diversity.
- 1.1.7. Prevent and mitigate loss of mountain biological diversity arising from anthropogenic disturbances.

- 1.1.8. Implement programmes to address deforestation, erosion, land degradation, disruption of water flows, retreat of glaciers and loss of biological diversity.
- 1.1.9. Identify and develop strategies to prevent, eradicate, and control invasive alien species that may threaten mountain biological resources.

Goal 1.2: To protect, recover, and restore mountain biological diversity

Suggested actions

- 1.2.1. Assess and develop strategies aimed at minimizing the threats of genetic erosion on food crops, paying particular attention to centres of crop origin.
- 1.2.2. Identify and protect unique, fragile mountain ecosystems, biological diversity hotspots and their associated species, and narrowly-distributed endemic taxa, giving special consideration to measures aimed at strict protection whenever feasible.
- 1.2.3. Develop strategies for land use planning at the landscape level, taking into account elements of ecological connectivity, and establishing national and subregional networks of protected areas, while respecting the rights and full participation of indigenous and local communities.
- 1.2.4. Identify suitable practices for enhancing the degree of ecosystem sustainability and site productivity, with particular emphasis on degraded slopes.
- 1.2.5. Prevent and mitigate losses of mountain biological diversity due to fragmentation and land use conversion.

Goal 1.3: To promote the sustainable use of mountain biological resources

Suggested actions

- 1.3.1. Promote sustainable land use practices in relation to agriculture, animal husbandry, and forestry in mountain ecosystems.
- 1.3.2. Develop, validate, and implement sustainable land use practices, including those of indigenous and local communities, for the conservation and use of agrobiodiversity in mountain ecosystems.
- 1.3.3. Develop, validate, and implement community-based management systems to conserve and sustainably use mountain biological diversity.
- 1.3.4. Promote integrated watershed management practices at the local, national, and regional levels.
- 1.3.5. Promote partnerships between all stakeholders, including indigenous and local communities, involved in the sustainable use of mountain biological resources.
- 1.3.6. Assess and manage the impact of tourism and sport activities on mountain ecosystems, as well as the development of associated human settlements and facilities, e.g., waste disposal facilities, ski lifts, roads, and associated infrastructure.

- 1.3.7. Strengthening local capacity for tourism management, in order to ensure that benefits derived from tourism activities are shared by local communities, preserving natural and cultural heritage values.

Goal 1.4: To promote access to, and sharing of benefits arising from the utilization of genetic resources related to mountain biological diversity in accordance to national legislation where it exists

Suggested actions

- 1.4.1. Strengthening capacity of indigenous and local communities, particularly those living in developing countries, to have access to genetic resources and to engage in equitable benefit-sharing arrangements.

Goal 1.5: To maintain genetic diversity in mountain ecosystems in particular through the preservation and maintenance of traditional knowledge and practices.

Suggested actions

- 1.5.1. Implement activities aimed at maintaining the already high levels of agrobiodiversity in mountain ecosystems, and the goods and services it provides, both for meeting local demands and to ensure sources of food security.
- 1.5.2. Implement provisions contained in Article 8(j) and related provisions of the Convention on Biological Diversity, taking into consideration the needs of developing countries.
- 1.5.3. Develop, validate, and implement sustainable-use practices for plant, animal, and microorganism genetic resources.

**PROGRAMME ELEMENT 2: MEANS OF IMPLEMENTATION FOR CONSERVATION,
SUSTAINABLE USE AND BENEFIT SHARING**

Goal 2.1. To enhance the legal, policy, institutional, and economic framework

Suggested actions

- 2.1.1. Develop and introduce incentive mechanisms for the provision and maintenance of ecosystem goods and services and identify and address perverse incentives and/or policy omissions that may impede the implementation of the Convention on Biological Diversity in mountain ecosystems.
- 2.1.2. Promote the diversification of income-generating activities in support of conservation and sustainable use of mountain biological diversity.
- 2.1.3. Improve the understanding of the various underlying causes of mountain biological diversity loss.
- 2.1.4. Integrate conservation and sustainable use of mountain biological diversity into sectoral policies and programmes.
- 2.1.5. Review, revise and implement mountain land tenure and planning systems which provide a sound basis for the conservation and sustainable use of mountain ecosystems.

Goal 2.2. To respect, preserve, and maintain knowledge, practices and innovations of indigenous and local communities in mountain regions

Suggested actions

- 2.2.1. Promote networking and collaborative action, and facilitate the full participation of indigenous and local communities in decision-making, paying particular attention to the empowerment of women.
- 2.2.2. Encourage both decentralization and full participation and involvement of local communities in decisions that affects them.
- 2.2.3. Implement activities aimed at the improvement of mountain livelihoods and the maintenance of cultural self-determination.
- 2.2.4. Develop capacity-building measures to facilitate the involvement of indigenous and local communities and the application of the knowledge they hold, with their prior informed consent, in the management, conservation, and sustainable use of mountain biological diversity.

Goal 2.3. To establish regional and transboundary collaboration and the establishment of cooperative agreements

Suggested actions

- 2.3.1. Promote international and concerted activities on mountain ranges, in order to create integrated transboundary cooperation supported by legislation, with protocols covering specific thematic issues such as landscape management, mountain agriculture, mountain forest, tourism, energy and conflict resolution.
- 2.3.2. Improve transboundary cooperation promoting international research programmes on mountain ranges.

**PROGRAMME ELEMENT 3: SUPPORTING ACTIONS FOR CONSERVATION,
SUSTAINABLE USE AND BENEFIT-SHARING**

Goal 3.1. To develop work on identification, monitoring and assessment of mountain biological diversity

Suggested actions

- 3.1.1. Develop where appropriate, specific mountain surveys in priority areas for conservation and sustainable use of mountain biological diversity.
- 3.1.2. Apply, whenever appropriate, the programme of work of the Global Taxonomy Initiative.
- 3.1.3. Support the work of the Global Mountain Biodiversity Assessment.

Goal 3.2. To improve knowledge on and methods for the assessment and monitoring of the status and trends of mountain biological diversity, based on available information.

Suggested actions

- 3.2.1. Development of monitoring systems based on identification of key abiotic and biotic indicators of changes in mountain ecosystem structure and function.

Goal 3.3. To improve the infrastructure for data and information management for accurate assessment and monitoring of mountain biological diversity and develop associated databases

Suggested actions

- 3.3.1. Develop and select international, regional and national criteria and where appropriate quantifiable indicators for mountain biological diversity, taking into account, as appropriate, existing work and processes on criteria and indicators on sustainable mountain management, as well as the knowledge held by indigenous and local communities.
- 3.3.2. Conduct key research programmes on the role and relationship of mountain biological diversity and ecosystem functioning, considering ecosystem components, structure, function and processes.
- 3.3.3. Enhance and improve the technical capacity at the national level to monitor mountain biological diversity, benefiting from the opportunities offered by the clearing-house mechanism of the Convention on Biological Diversity and develop associated databases as required at the global scale.

Goal 3.4. To improve research, technical and scientific cooperation, and other forms of capacity building related to mountain biological diversity

Suggested actions

- 3.4.1. Foster exchange of experiences and knowledge on sustainable development and ecosystem vulnerability among mountainous countries.
- 3.4.2. Conduct key research programs on mountain biological diversity, and its relationship to ecosystem structure and function.

Goal 3.5. To increase public education, participation and awareness in relation to mountain biological diversity

Suggested actions

- 3.5.1. Promote educational and capacity-building systems tailored to the specific conditions of mountain ecosystems.
- 3.5.2. Increase awareness of the potential contribution of knowledge, practices and innovations of indigenous and local communities to conservation and sustainable use of mountain biological diversity.
- 3.5.3. Develop, validate, and implement ecotourism activities aimed at increasing awareness respect and knowledge for mountain biological diversity.

Goal 3.6. To promote the development, validation, and transfer of appropriate technologies for mountain ecosystems, including indigenous technologies in accordance with Article 8(j) of the Convention on Biological Diversity and related provisions

Annex II

TERMS OF REFERENCE AD HOC TECHNICAL EXPERT GROUP (AHTEG) ON MOUNTAIN BIOLOGICAL DIVERSITY

1. The Ad Hoc Technical Expert Group on Mountain Biological Diversity will undertake:

(a) A review of suggested actions contained in the proposed programme of work on mountain biological diversity as stated in annex I to SBSTTA recommendation VIII/I A;

(b) The identification of gaps in suggested actions, and include new suggested actions whenever appropriate, under the relevant programme element and programme goals;

(c) The inclusion of the results of the consultation on the proposed programme of work on mountain biological diversity, as noted in paragraph 4 of SBSTTA recommendation VIII/I A.

Duration of work

2. The work of the Ad Hoc Technical Expert Group on Mountain Biological Diversity should be completed before the ninth meeting of SBSTTA. The Ad Hoc Technical Expert Group will hold a meeting immediately prior to the ninth meeting of SBSTTA, and will subsequently report to SBSTTA.

B. Indicative list of technologies

The Subsidiary Body on Scientific, Technical and Technological Advice *requests* the Executive Secretary to:

(a) Invite Parties, other Governments and relevant organizations to submit additional comments on technology transfer and cooperation in the light of the outcome of the eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice and remind those that have not done so to submit their thematic reports on technology transfer and cooperation; and extend the deadline for submission of these thematic reports to 31 May 2003;

(b) Revise and expand the indicative list of technologies, both specific and broad mountain biodiversity technologies (UNEP/CBD/SBSTTA/8/7/Add.1) by taking into account, *inter alia*, the thematic national reports; traditional knowledge, innovations and practices of indigenous and local communities; the needs to implement the ongoing work programmes of the Convention; other thematic and cross-cutting issues and initiatives (e.g., guidelines and guiding principles) of the Convention; legal and socio-economic aspects; and the need of developing countries and countries with economies in transition for capacity-building. The table should include, *inter alia*, information on:

- (i) Availability of relevant documentation;
- (ii) Opportunities, requirements and possible barriers/obstacles to access, transfer and cooperation and absorption/adaptation of the technologies, including legal and socio-economic aspects; and
- (iii) Assessment of the possible impact of the technologies on biological diversity;

(c) Synthesize information on positive and negative experiences on the development and transfer of technologies and technical cooperation, and propose, for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice at its ninth meeting, a set of best practices on the transfer of technologies relevant to the conservation and sustainable use of mountain biodiversity and the fair and equitable sharing of the benefits arising from the utilization of genetic resources, taking into consideration the national thematic reports, the recommendations of the Open-ended Inter-Sessional Meeting on the Multi-Year Programme of Work and the outcome of the Norway/United Nations Conference on Technology Transfer and Capacity-Building, to be held in Trondheim, Norway, from 23 to 27 June 2003, and other relevant information;

(d) Develop, for consideration by the Subsidiary Body at its ninth meeting, a proposal on how the role of the clearing-house mechanism of the Convention could be enhanced so that it could become a central mechanism for exchange of information on technologies relevant to the conservation and sustainable use of biological diversity and the fair and equitable sharing of benefits arising from the utilization of genetic resources, access to these technologies, technology development, technical cooperation and transfer of technologies. The proposal could contain ways and means for:

- (i) Developing a searchable catalogue (including database) of technologies that are in the public domain, taking into account ongoing initiatives while avoiding unnecessary duplication, and including reference to relevant examples or case studies;
- (ii) Setting up a portal that international organizations can be encouraged to use to disseminate technologies;

(e) Integrate the specific issues related to mountain biological diversity when preparing, for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice at its ninth meeting, proposals on measures, including on training activities, that would facilitate and promote transfer of technology and technology cooperation.

VIII/2. *Inland water ecosystems: review, further elaboration and refinement of the programme of work*

The Subsidiary Body on Scientific, Technical and Technological Advice

Review of the implementation of the programme of work

1. *Recommends* that the Conference of the Parties:
 - (a) *Notes* the progress made in the implementation of the programme of work;
 - (b) *Recognizes* that a major shortcoming in the current review has been the limited availability of recent information on each of the activities of the programme of work, and further recognizing the usefulness of the national reports submitted to the Ramsar Convention for a global status of the implementation of the programme of work on biodiversity of inland water ecosystems, and, accordingly, *request* the Executive Secretary to submit, for consideration at its eighth meeting, a proposal on ways and means for making the review more comprehensive;
 - (c) *Further requests* the Executive Secretary to develop with the Ramsar Bureau a proposal, for consideration by the Conference of the Parties at its eighth meeting, on streamlining and improving the effectiveness of national reporting on inland water ecosystems, taking into account the work of the Task Force on Streamlining Forest-related Reporting established in the framework of United Nations Forum on Forests and other initiatives for harmonizing biodiversity-related national reports;
 - (d) *Welcomes* and *encourages*, in particular, the synergy being developed between the Convention on Biological Diversity and the Ramsar Convention on Wetlands in implementing the programme of work, and *notes* the progress made in the implementation of joint work plans between the two conventions and encourage further activities aiming at avoiding overlaps in the work of both conventions;
 - (e) *Requests* the Executive Secretary to continue developing and strengthening collaboration with other organizations, institutions and conventions as a way to streamline many of the activities contained in the programme of work, promote synergies and avoid unnecessary duplications;
 - (f) *Notes* the need to adapt elements in the programme of work, as appropriate, in response to new developments or emergency matters and *decides* to carry out the next in-depth review of the programme of work no later than ten years from now, taking into account the multi-year programme of work of the Conference of the Parties and the 2010 target in the Strategic Plan;

Revised programme of work

2. *Recommends* that the Conference of the Parties:
 - (a) *Recognizes* that the review of the implementation of the programme of work identified gaps and constraints that need to be addressed to meet the objectives of the Convention and, accordingly, *adopt* the revised programme of work proposed in the annex to the present recommendation, which addresses the identified gaps and constraints with its three programme elements on:
 - (i) Conservation and sustainable use of biodiversity, including application of the ecosystem approach;
 - (ii) Enabling activities addressing many of the socio-economic gaps identified in the review of the programme of work; and

(iii) Monitoring and assessment;

(b) *Recommends* that the Strategic Plan of the Convention on Biological Diversity and the Plan of Implementation of the World Summit on Sustainable Development, and their target of 2010 to reduce significantly the rate of biodiversity loss, should guide the implementation of the revised programme of work on inland water biological diversity;

(c) *Recognizes* the need for resources, human, technological and financial, to implement effectively the activities under the revised programme of work;

(d) *Urges* Parties, other Governments and organizations to incorporate the objectives and relevant activities of the programme of work in their biodiversity strategies and action plans, wetland policies and strategies and to implement them and further promote coordination and cooperation between national actors responsible for inland water ecosystems and biological diversity;

(e) *Recognizes* the presence of inland waters in agricultural lands, forests, dry and sub-humid lands, and mountains, and the ecological connectedness between inland waters, estuaries and inshore coastal areas and, accordingly, *encourages* Parties, other Governments and organizations to ensure cross-referencing to, and coherence with, the other thematic programmes of work while implementing this programme of work;

(f) *Urges* Parties to share information and lessons learned from the application of national and regional water frameworks;

(g) *Invites* Parties to formulate and adopt outcome oriented targets and identified priorities for each activity, including timescales, taking into account the Strategic Plan of the Convention as well as the Strategic Plan of the Ramsar Convention 2003-2008, the Global Strategy for Plant Conservation and the Plan of Implementation of the World Summit on Sustainable Development;

3. *Recommends* that the Conference of the Parties *requests* the Executive Secretary to:

(a) Compile, for the eighth meeting of the Conference of the Parties, information on mountain water supply and examples of transferable technologies relevant to the implementation of the proposed revised programme of work on inland water biodiversity also relevant to mountain ecosystems, and ensure that this information is considered in developing the programme of work on mountain biological diversity, and taking into account, *inter alia*, the work of the Committee on Forestry of the Food and Agriculture Organization of the United Nations;

(b) Ensure that inland water ecosystem issues are fully incorporated, as appropriate, into all other thematic work programmes;

(c) Urge Parties and other countries to provide information on specific examples of successful policy interventions to conserve and sustainably use inland waters,

(d) Summarize this and related available information for the eighth meeting of the Conference of the Parties;

(e) In collaboration with relevant organizations and conventions, develop cost-effective means to report on implementation of the programme of work as measured against the global targets defined in the Strategic Plan, in the Global Strategy for Plant Conservation, and in the Plan of Implementation of the World Summit on Sustainable Development, essentially using indicators and assessments at the global level by international organizations, or existing data, and propose these to the Subsidiary Body prior to the eighth meeting of the Conference of the Parties;

4. *Requests* the Executive Secretary:

(a) To continue the close cooperation with the Commission on Sustainable Development in its development of the World Water Development Report and for the celebration of 2003 as the International Year of Freshwater to ensure that biological diversity issues are considered in the process;

(b) To prepare, for consideration by the national focal points and then the Subsidiary Body on Scientific, Technical and Technological Advice prior to the seventh meeting of the Conference of the Parties, a schedule of short, medium and long-term outcome oriented targets and deadlines for implementation of the programme of work;

Assessment of status and trends, and rapid assessment

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

(a) *Takes note* of the status and trends of, and threats to, inland water biodiversity described in the note by the Executive Secretary (UNEP/CBD/SBSTTA/8/8/Add.1) and related information documents and give particular consideration to the listing of major threats to inland water biodiversity, and their underlying causes, as a basis for the identification of priorities for early action, recognizing that the relative importance of threats, and their underlying causes, will vary by region and country;

(b) *Recognizes* the need for reliable baseline data and subsequent regular national assessments of the status and trends of, and threats to, inland water biodiversity as a basis for decision-making on the conservation and sustainable use of biodiversity of inland water ecosystems and, accordingly, *request* the Executive Secretary, in collaboration with Parties and relevant organizations, in particular the Ramsar Convention, the Millennium Ecosystem Assessment and the Global International Waters Assessment (GIWA) among others, and making use of all available information, to prepare, for consideration by the Conference of the Parties at its eighth meeting:

- (i) A work plan with defined timeframe, ways, means, and capacity needs for assessing the extent, distribution and characteristics, including, *inter alia*, physical, chemical and biological characteristics, of all types of inland water ecosystems at the global and regional scales;
- (ii) A report on information, and sources of information, on the trends of inland water biodiversity, definition of agreed baselines, relevant indicators and frequency of the assessments; and
- (iii) A work plan with ways and means for assessing processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of inland water biological diversity;

(c) *Encourages* Parties, other Governments and relevant organizations to improve national, regional and global data on inland water ecosystem goods and services, their uses and related socio-economic variables; on species and all taxonomic levels; on basic hydrological aspects and water supply; and on the threats to which inland water ecosystems are subjected;

(d) *Welcomes* the report of the Expert Meeting on Guidelines on Rapid Assessment of Biological Diversity of Inland Water Ecosystems (UNEP/CBD/SBSTTA/8/INF/5) and the guidelines annexed thereto;

(e) *Invites* Parties, other Governments and relevant organizations to use and promote the application of the guidelines, in particular in the circumstances of small island developing States and in the territories of States in which inland water ecosystems suffer from ecological disaster;

(f) *Recognizes* that the guidelines are focused on biological factors and, more specifically, on species-level assessments, and that they only touch on ecosystem-level and socio-economic and cultural aspects relating to the conservation and use of biological diversity, and *requests* the Executive Secretary, in collaboration with the Ramsar Bureau and other relevant organizations, to develop a complementary set of tools to assess the function and health of inland water ecosystems and the socio-economic and cultural values of biological diversity of inland waters to be presented as information paper to the eighth meeting of the Conference of the Parties;

(g) *Requests* the Executive Secretary, in collaboration with relevant organizations, to strengthen capacities, including through practical training, for the application and, as needed, adaptation to local conditions of the guidelines, particularly in small island developing States and in the territories of certain States in which inland water ecosystems suffer from ecological disaster;

(h) *Request* the Executive Secretary to develop a monitoring and reporting system to assess the experiences gathered with respect to the usefulness and applicability of the guidelines, including through the national reports under the Convention on Biological Diversity;

(i) *Encourage* Parties, other Governments and relevant organizations to support the active participation of indigenous and local communities in all stages of rapid assessments of biological diversity of inland waters traditionally occupied or used by these communities, consistent with the recommendations approved in annex II of decision VI/10;

(j) *Emphasize* the importance of inland water biodiversity for sustainable livelihoods and, accordingly, *request* the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations and other relevant organizations, to prepare a study on the linkages between conservation and sustainable use of inland water biodiversity and poverty alleviation/sustainable livelihoods, including human health considerations, for consideration by the Conference of the Parties at its eighth meeting. The study should contain proposals on ways and means to ensure that implementation of the programme of work contributes appropriately to poverty alleviation and sustainable livelihoods;

6. *Recommends* that the Conference of the Parties request the Executive Secretary to compile, in collaboration with relevant organizations and experts, existing information and disseminate it in a format that is useful to policy makers, recognizing that comprehensive information about the function of inland water ecosystems is invaluable to land and resource managers for planning, evaluating and executing plans and programmes. Emphasis should be put on assessment of, and research on, factors that affect ecosystem functions, the valuation of ecosystem functions, and remedial actions to restore ecosystem functions;

Classification systems and criteria for the identification of important inland water biodiversity

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

(a) *Request* those Parties to which this is appropriate, to adopt the Ramsar classification of wetlands as an interim classification system and use it as a framework for the initial inventorying of inland water ecosystems for the purpose of preparing indicative lists of inland water ecosystems important in the framework of the Convention, as requested in paragraph 12 of the programme of work on inland water biodiversity annexed to decision IV/4;

(b) *Request* the Subsidiary Body on Scientific, Technical and Technological Advice, to review the interim classification system prior to its tenth meeting, taking into account the multi-year programme of work, on the basis of experiences accumulated by Parties, other Governments and relevant organizations, taking into account the options described in the note by the Executive Secretary (UNEP/CBD/SBSTTA/8/8/Add.4);

(c) *Invite* the Ramsar Bureau and the Scientific and Technical Review Panel of the Ramsar Convention, in collaboration with the Executive Secretary and the Subsidiary Body on Scientific, Technical and Technological Advice, respectively, and in line with paragraph 30 of resolution VIII.10 of the Conference of the Parties to the Ramsar Convention, and with a view to achieving a more comprehensive coverage of components of biological diversity through the designation of Ramsar sites:

- (i) To further elaborate the guidelines on existing criteria for the following features:
 - a. Wetlands supporting wild relatives of domesticated or cultivated species;
 - b. Wetlands that support species or communities and genomes or genes of economic, social, scientific or cultural importance;
 - c. Wetlands supporting species or communities that are important for research into the conservation and sustainable use of biological diversity including indicators of ecosystem health and integrity; and
 - d. Wetlands that support important populations of taxonomic groups with wetland-dependent species, including, *inter alia*, amphibians;
- (ii) To consider the development of additional criteria, including, as appropriate, quantitative criteria;
- (iii) To develop guidelines on the geographical scale at which criteria should be applied;

(d) *Further invite* the Ramsar Bureau, in collaboration with the Executive Secretary, to provide guidance, based on experiences, for the interpretation and application of the Ramsar criteria at the national and regional levels.

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**PROPOSED REVISED PROGRAMME OF WORK ON INLAND WATER
BIOLOGICAL DIVERSITY**

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Goal 1.4: To prevent the introduction of invasive alien species which potentially threaten the biological diversity of inland water ecosystems, and to control, and where possible, eradicate established invasive species in these ecosystems.	24	Deleted:
PROGRAMME ELEMENT 2: INSTITUTIONAL AND SOCIO-ECONOMIC ENABLING ENVIRONMENT	26	Deleted:
Goal 2.1: To promote the integration of conservation and sustainable use of the biological diversity of inland water ecosystems into relevant sectoral and cross-sectoral plans, programmes, policies and legislation.....	26	Deleted:
Goal 2.2: To encourage the development, application and transfer of low-cost appropriate technology, non-structural and innovative approaches to water resource management and the conservation and sustainable use of the biological diversity of inland water ecosystems, taking into account any decision taken by the Conference of the Parties at its seventh meeting on technology transfer and cooperation	27	Deleted:
Goal 2.3: To provide the appropriate incentives and valuation measures to support the conservation and sustainable use of inland water biological diversity, and to remove, or reform appropriately, all perverse incentives opposing such conservation and sustainable use of ecosystems[, and which include those subsidies to local production and/or consumption that distort international trade][consistent with decision VI/15]	29	Deleted:

Goal 2.4: To implement the programme of work for the Global Initiative on Communication, Education and Public Awareness (as adopted by the Conference of the Parties to the Convention on Biological Diversity in its decision VI/19), giving particular attention to matters relating to the conservation and sustainable use of the biological diversity of inland water ecosystems.....	31	Deleted:
Goal 2.5: Promote the involvement of local and indigenous communities and other relevant stakeholders in the conservation and sustainable use of biological diversity of inland water ecosystems	32	Deleted:
PROGRAMME ELEMENT 3: KNOWLEDGE, ASSESSMENT AND MONITORING	33	Deleted:
Goal 3.1: To develop an improved understanding of the biodiversity found in inland water ecosystems, how these systems function, their ecosystem goods and services and the values they can provide.	33	Deleted:
Goal 3.2: To develop, based on inventories, rapid and other assessments applied at the regional, national and local levels, an improved understanding of threats to inland water ecosystems and responses of different types of inland water ecosystems to these threats.....	35	Deleted:
Goal 3.3. To ensure projects and actions with the potential to impact negatively on the biological diversity of inland water ecosystems are subjected, in accordance with national legislation and where appropriate, to suitably rigorous impact assessments, including consideration of their potential impact on sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities.....	38	Deleted:
Goal 3.4. To introduce and maintain appropriate monitoring arrangements to detect changes in the status and trends of inland water biodiversity Error! Bookmark not defined.	40	Deleted:

INTRODUCTION

1. The revised and further elaborated programme of work for the conservation and sustainable use of the biological diversity of inland water ecosystems builds upon ongoing activities, uses existing knowledge, and also focuses attention on gaps in the institutional frameworks and the knowledge base upon which management decisions are made. It seeks to respond to the constraints identified by Parties through their national reports and to provide an integrated package of activities to address these obstacles and impediments. The activities within the programme of work are intended to be targeted towards, and address first and foremost, national priorities as prescribed through the national biodiversity strategy and action plan of each Party.
2. In furthering work under this programme duplication of effort should be avoided, and harmonization of respective programmes of work is to be pursued through strong coordination between the Convention on Biological Diversity and other relevant conventions and international bodies, with a particular view to the list of lead actors and collaborators. The programme and activities of the Ramsar Convention on Wetlands and its Scientific and Technical Review Panel (STRP) have been studied very carefully and actions were identified to optimize harmonization of activities of the Convention on Biological Diversity and its lead partner in the implementation of the programme of work on biological diversity of inland water ecosystems. This has been done in accordance with the third joint work plan between the Convention on Biological Diversity and the Ramsar Convention, as endorsed by the Conference of the Parties to the Convention on Biological Diversity in its decision VI/20 .
3. The Executive Secretary is expected to continue and further develop collaboration with programmes, organizations, institutions, and conventions working with research, management and conservation of inland water biological diversity. These include (but are not limited to) the United Nations Convention to Combat Desertification (UNCCD), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on International Trade in Endangered Species (CITES), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), BirdLife International, Conservation International, DIVERSITAS, the Global International Water Assessment, the Global Water Partnership, the WorldFish Center (formerly the International Center for Living Aquatic Resources Management, ICLARM), IUCN—the World Conservation Union, the Millennium Ecosystem Assessment, the World Water Council, Wetlands International, the World Wide Fund for Nature (WWF) and the World Bank.
4. The clearing-house mechanism should continue to be used as a primary vehicle to promote and facilitate the exchange of information and transfer of technology relevant to the conservation and use of inland water biological diversity.
5. The aim of the revised programme of work on biological diversity of inland water ecosystems is to further enhance the implementation of the Convention on Biological Diversity in this area at the catchment/watershed/river basin levels, and to fulfil its leadership role in international biodiversity issues relating to inland water ecosystems. [In accordance with Article 22 of the Convention, nothing in this programme of work shall lead to the creation or perpetuation of barriers to international trade or of trade-distorting domestic support measures in violation of international law, including trade-related agreements.]
6. The revised programme of work identifies goals, objectives and activities within the three programme elements: conservation, sustainable use and benefit-sharing; institutional and socio-economic enabling environment; and knowledge, assessment and monitoring. The programme of work is not

intended to be prescriptive for Parties, given that that national circumstances, capacities and priorities can and do vary greatly. As such, it should be viewed as providing a comprehensive and integrated framework of activities from which Parties can formulate their own nationally appropriate responses within the context of the national biodiversity and sustainable development strategies and action plans.

7. Throughout the programme of work it should be assumed that references to biological diversity, unless otherwise specified, refers to genomes and genes, species and communities, ecosystems and habitats. It should also be understood that the order of presentation within this programme of work does not convey any indication of relative priority.

8. Within the programme of work goals and objectives are listed under each programme element. Overarching these, and operating as fundamental guiding principles, are the following:

(a) To promote the conservation and sustainable use of inland water biological diversity including by appropriate transfer and development of technologies and by appropriate funding;

(b) To apply the ecosystem approach to the management of inland water ecosystems;

(c) To support indigenous and local communities to re-establish, develop and implement traditional approaches and/or adaptive management approaches to conserve and use sustainably the biological diversity of inland water ecosystems;

(d) To promote the fair and equitable sharing of benefits gained from the use of inland water genetic resources and associated traditional knowledge based on prior informed consent in accordance with national laws.

(e) To use and draw upon scientific, technical and technological knowledge of indigenous and local communities, with their participation and prior informed consent in accordance with national laws, in the implementation of all programme elements.

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

Goal 1.1. To integrate the conservation and sustainable use of biological diversity into all relevant sectors of water-resource and river-basin management, taking into account the ecosystem approach

Context and linkages

Article(s) of the Convention on Biological Diversity: 6 (a) and (b)

Strategic Plan objective(s): 1.2, 1.5, 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraphs 8 (c), 9 (a) (i) and (ii), (b) (i), (g) (i) and (ii), (k), (m) (v)

Intra and inter-programmatic linkages:

Goal 1.2 (*In situ* conservation through protected areas)

Goal 2.1 (Integration with other sectors etc)

Goal 3.2- relating to identification of stressed inland water ecosystems.

Plan of Implementation of the World Summit: paragraphs 24, 32 (c), 40 (b) and 66 (b)

Objectives

(a) Adopt integrated land and catchment/watershed/river basin management approaches that incorporate the ecosystem approach, and the conservation and sustainable use of inland water ecosystems, including transboundary catchments, watersheds and river basins;

(b) Encourage the adoption of such integrated watershed, catchment and river basin management strategies to maintain, restore or improve the quality and supply of inland water resources and the economic, social, cultural, spiritual, hydrological, biological diversity and other functions and values of inland water ecosystems;

(c) Integrate into land-and water-use management approaches appropriate adaptive management and mitigation responses to combat, and prevent where possible, the negative impacts of climate change, El Niño, unsustainable land use and desertification on the biodiversity of inland water ecosystems.

Activities of the Parties

- 1.1.1. Assess current management approaches and strategies with regard to their integration of the ecosystem approach and sustainable use principles and adjust them as needed.
- 1.1.2. Apply the appropriate environmental water allocations (in terms of both quantity and quality of water) to maintain or improve the ecological functioning and productivity of priority inland water ecosystems, including those identified as most stressed (see activities 1.1.6 and 3.2.2 below). In so doing consideration should also be given to the likely impacts of climate change and desertification, and factor in suitable mitigation and adaptive management approaches.
- 1.1.3. Identify and remove the sources, or reduce the impacts, of water pollution (chemical, thermal, microbiological or physical) on the biological diversity of inland waters.
- 1.1.4. Promote effective collaboration among scientists, local stakeholders, planners, engineers, and economists, and including indigenous and local communities with their prior informed consent (both within and among countries) in the planning and implementation of development projects to better integrate the conservation and sustainable use of inland water biological diversity with water resource developments.
- 1.1.5. Contribute to, and participate in, as appropriate, the River Basin Initiative (RBI) by sharing case studies, experiences and lessons learned on:
 - (a) Examples of watershed management that incorporate the conservation and sustainable use of inland water biological diversity with special reference to examples that use the ecosystem approach to meet water management goals; and
 - (b) Examples of water resource development projects (water supply and sanitation, irrigation, hydropower, flood control, navigation, groundwater extraction) that incorporate consideration of the conservation and sustainable use of biological diversity.
- 1.1.6. Introduce into national, catchment, watershed and river-basin level, and local water and land-use planning and management, adaptive management and mitigation strategies to combat and prevent, where possible, the negative impacts of climate

change, El Niño, unsustainable land-use practices and desertification, noting the ongoing work of the Ad Hoc Technical Expert Group on Biodiversity and Climate Change and the programme of work on dry and sub-humid lands.

- 1.1.7 Provide to the Executive Secretary advice on national experiences and approaches to promoting and implementing adaptive management and mitigation strategies for combating the impacts of climate change, El Niño and desertification.
- 1.1.8 Use, where appropriate, all available information on dams in order to ensure that the biological diversity of inland water ecosystems is fully taken into account in decision making on large dams.

Supporting activities

- 1.1.9. SBSTTA should:
 - (a) Review existing information on the allocation and management of water for maintaining ecological functions, including the relevant guidelines and technical papers on this topic, and prepare advice for the Conference of the Parties;
 - (b) Develop specific expert guidance on the management of the negative impacts of climate change, El Niño, unsustainable land-use practices and desertification on inland water biodiversity and appropriate adaptive management and mitigation responses, in collaboration with relevant partners.
- 1.1.10. The Convention Secretariat and the Ramsar Bureau should finalize the development and move into full implementation of the River Basin Initiative, with input from collaborating partner organizations, as appropriate.
- 1.1.11. The Ramsar Bureau should be invited to bring to the attention of the Parties to the Convention on Biological Diversity relevant guidance or approaches adopted by the Ramsar Convention for the wise use of wetlands, such as:
 - (a) The Ramsar Convention guidelines for integrating wetland conservation and wise use into river basin management; and
 - (b) Model approaches to transboundary watershed or river basin management that can demonstrate effective mechanisms for cooperative management.
- 1.1.12. The Executive Secretary, in collaboration with relevant partners as appropriate, should compile and disseminate, including through the clearing-house mechanism of the Convention on Biological Diversity:
 - (a) Case-studies, lessons learned and best-practice guidance on ways and means to address all forms of water pollution at both the local and catchment scales;
 - (b) Examples of water resource development projects (water supply and sanitation, irrigation, hydropower, flood control, navigation, groundwater extraction) that incorporate biological diversity considerations, and which aim for sustainable use and maintenance of ecological processes; and
 - (c) The information provided by Parties in response to activity 1.1.7 above.

- 1.1.13. Also in collaboration with appropriate partners, the Executive Secretary should develop practical management guidance and associated instruments on sustainable use of inland water biodiversity, with special attention for sustainable tourism developments, sustainable use of freshwater fish stocks, and sustainable agricultural practices in association with inland water ecosystems, taking into account the ongoing work in response to the implementation of decisions V/24 and VI/13 of the Conference of the Parties, on sustainable use.
- 1.1.14. The Ramsar Bureau should be invited to make available to Parties to the Convention on Biological Diversity, the Ramsar Convention guidelines for global action on peatlands, adopted at the eighth meeting of the Conference of the Contracting Parties to the Ramsar Convention.

Main partners

Ramsar Bureau and STRP, RBI, UNESCO, International Water Management Institute (IWMI), subsidiary scientific bodies of UNFCCC, CCD and Ramsar, IPCC, WMO.

Other collaborators

Relevant international, regional and national organizations such as UNEP, International Council of Scientific Unions (ICSU), DIVERSITAS, IUCN, FAO.

Goal 1.2: To establish and maintain comprehensive, adequate and representative systems of protected inland water ecosystems within the framework of integrated catchment/watershed/river basin management

Context and linkages

Article(s) of the Convention on Biological Diversity: 8 (a), (b), (c), (d) and (e)

Strategic Plan objective(s): 1.2, 1.5, 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraph 8 (c) (vii)

Intra and inter-programmatic linkages:

Goal 3.3 (National inventories and assessment)

Goal 3.6 (Further elaboration of Annex I).

Plan of Implementation of the World Summit: paragraph 32 (c)

Objective

(a) Comprehensive, adequate and representative systems of protected inland water ecosystems (including all IUCN protected area categories, as appropriate) are developed and maintained within the framework of integrated catchment/watershed/river basin management.

(b) Where appropriate, transboundary, collaborative approaches to identifying, recognizing and managing protected inland water ecosystems are undertaken between neighbouring Parties.

Activities of the Parties

- 1.2.1 Provide, as appropriate, to the Executive Secretary, examples of protected area establishment and management strategies that are supporting the conservation and sustainable use of inland water ecosystems.

- 1.2.2. Undertake the necessary assessments to identify priority sites for inclusion into a system of protected inland water ecosystems, applying in particular the guidance on operationalizing Annex I of the Convention on Biological Diversity and its harmonized application with the criteria for identifying Wetlands of International Importance under the Ramsar Convention (see activity 3.2.3).
- 1.2.3. As part of activity 1.2.2 above, identify sites important for migratory species dependent on inland water ecosystems.
- 1.2.4. Develop incrementally, as the availability of resources and national priorities determine, and as part of an integrated catchment/watershed/river basin management approach, protected area systems (aquatic reserves, Ramsar sites, heritage rivers, etc.), which can contribute in a systematic way to the conservation and sustainable use of biological diversity, and to maintaining overall ecosystem function, productivity and “health” within each drainage basin.
- 1.2.5. As appropriate, work collaboratively with neighbouring Parties to identify, have formally recognized and managed, transboundary protected inland water ecosystems.
- 1.2.6. In undertaking activity 1.2.4 above, those Parties to the Convention on Biological Diversity that are also Parties to the Ramsar Convention ^{1/} should harmonize this work with the development of national networks of Wetlands of International Importance, which are ‘comprehensive and coherent’ in line with the Ramsar strategic framework for the future development of the List of Wetlands of International Importance.

Supporting activities of the Executive Secretary

- 1.2.7. Review and disseminate relevant information and guidance, including through the clearing-house mechanism, on national and transboundary experiences and case-studies to assist efforts in establishing and maintaining protected inland water ecosystems considering *inter alia*:
 - (a) The range of resource materials and guidance available through the IUCN Commission on Protected Areas;
 - (b) The Ramsar Convention strategic framework for the future development of the List of Wetlands of International Importance, and its specific guidance in relation to the identification and designation of certain inland water ecosystem types such as karsts and subterranean hydrological systems, peatland, wet grasslands etc;
 - (c) The new Ramsar guidelines on management planning for Ramsar sites and other wetlands, adopted by the Conference of the Contracting Parties to the Ramsar Convention at its eighth meeting; and
 - (d) Advice and guidance available from the UNESCO Man and the Biosphere programme, International Hydrological Programme (IHP) and World Heritage Centre.

^{1/} 133 as at 14 March 2003.

- 1.2.8. In collaboration with the secretariats of the Convention on Migratory Species and the Ramsar Convention identify opportunities for collaborative work on protected area networks for migratory species dependent on inland water ecosystems, through the respective bilateral joint work plans.

Main partners

Ramsar Bureau and STRP, CMS secretariat and Scientific Council, UNESCO-MAB, World Heritage Centre, IUCN

Other collaborators

Relevant international, regional and national organizations and interested Parties.

Goal 1.3: To enhance the conservation status of inland water biological diversity through rehabilitation and restoration of degraded ecosystems and the recovery of threatened species

Context and linkages

Article(s) of the Convention on Biological Diversity: 8 (f), 9 (c), 10 (d)

Strategic Plan objective(s): 1.2, 1.5, 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraph 8 (c) (iv)

Intra and inter-programmatic linkages:

Goal 1.1 (Integrating biodiversity conservation into water resource and river basin management). Apart from the clear benefits for biodiversity conservation that come from restoring or rehabilitating inland water ecosystems, there is the added benefit gained for overall “health” of catchment and river basins from reinstating these part of the natural water infrastructure.

Goal 1.2 (Protected areas)

Goal 2.1 (Integration into other sectors, etc)

Plan of Implementation of the World Summit: paragraphs 26 (c) and 37 (d)

Objectives

- (a) Degraded inland water ecosystems are rehabilitated or restored, where appropriate and possible.
- (b) The conservation status of threatened species reliant on inland water ecosystems is improved.

Activities of the Parties

- 1.3.1. Provide, as appropriate, to the Executive Secretary case-studies, national experiences and any relevant local, national or regional guidance relating to the successful rehabilitation or restoration of degraded inland water ecosystems, and the recovery of threatened species.
- 1.3.2. Identify nationally priority candidate inland water ecosystems and/or sites for rehabilitation or restoration and proceed to undertake such works, as resources allow. In identifying potential candidate sites, consider the relative conservation status of the

threatened species involved, and the potential gains for the overall ecosystem functioning, productivity and “health” within each drainage basin (see activity 1.2.4).

- 1.3.3. Identify nationally and then act, as appropriate, to improve the conservation status of threatened species, including migratory species, reliant on inland water ecosystems, (see activities 1.2.3 and 1.2.4), taking into account the programme of work on restoration and rehabilitation of degraded ecosystems being developed by the Conference of the Parties as part of its multi-year programme of work up to 2010.

Supporting activities

- 1.3.4. SBSTTA to prepare guidelines on promoting rehabilitation and restoration of inland water ecosystems, on the basis of the Ramsar principles and guidelines on wetlands restoration, the findings of the IUCN Species Survival Commission regarding the conservation status of threatened species reliant on inland water ecosystems, and other information provided by Parties (see activity 1.3.1).

Main partners

Ramsar Bureau and STRP, Wetlands International, CMS secretariat and Scientific Council, CMS-related agreements, IUCN, DIVERSITAS

Other collaborators

MAB and other relevant international, regional and national organizations.

Goal 1.4: To prevent the introduction of invasive alien species that potentially threaten the biological diversity of inland water ecosystems, and to control and, where possible, eradicate established invasive species in these ecosystems

Context and linkages

Article(s) of the Convention on Biological Diversity: 7 (c), 8 (h), 8 (l) and 14 (a)

Strategic Plan objective(s): 1.2, 1.5, 2.1, 3.1, 3.3, 3.4, 4.1, 4.3 and 4.4

Related element(s) of first programme of work: paragraphs 8(c)(vi) and 9(h)

Intra and inter-programmatic linkages:

Goal 2.1 (Integration with other sectors)

Goal 2.4 (CEPA)

Goals 3.2 and 3.3 (Assessments)

Objective

Through national biodiversity strategies and action plans and other relevant national and regional policies, programmes and plans undertake appropriate actions to prevent invasive alien species, which threaten the biological diversity of inland water ecosystems, from spreading and either control or eradicate them where invasion has already taken place.

Activities of the Parties

- 1.4.1. Promote and implement relevant guidelines and/or guiding principles in relation to invasive alien species making use of the expert guidance available such as through the

“toolkit” of the Global Invasive Species Programme (GISP), the SCOPE of ICSU, and other sources referred to under the heading “Supporting activities” below.

- 1.4.2. Provide the Executive Secretary, as appropriate, with examples of the impacts of invasive alien species and of programmes used to control their introduction and mitigate negative consequences on inland water ecosystems, especially at the catchment, watershed and river basin levels.
- 1.4.3. Raise awareness, as part of communication, education and public awareness-raising activities (see goal 2.4) of the possible problems and costs associated with the deliberate or accidental introduction of alien species, genotypes and genetically modified organisms that adversely affect aquatic biological diversity, taking into consideration the Cartagena Protocol on Biosafety to the Convention on Biological Diversity.
- 1.4.4. Within the context of transboundary catchments, watershed and river-basin management, and especially in relation to inter-basin water transfers, provide appropriate mechanisms to prevent the spread of invasive alien species.
- 1.4.5. Prevent the introduction of invasive alien species through aquaculture development and restore, where appropriate, indigenous wild-capture fisheries stocks in preference to other aquaculture developments.

Supporting activities

- 1.4.6. In collaboration with GISP, the Executive Secretary should implement the project on assessment of impacts of invasive alien species in inland waters ^{2/} and make proposals on future assessments for consideration by SBSTTA.
- 1.4.7. The Ramsar Bureau should be requested to make available to Parties to the Convention on Biological Diversity the results of the consideration of the issue of invasive alien species in wetlands at the eighth meeting of the Contracting Parties to the Ramsar Convention.
- 1.4.8. The Executive Secretary should compile information provided by Parties pursuant to activity 1.4.2 above and other suitable information products including the FAO Code of Conduct for Responsible Fisheries and that prepared by the Ramsar Bureau, Commonwealth Secretariat, and IUCN for the communications and awareness-raising project on African wetland invasive alien species.
- 1.4.9. CITES, the Ramsar STRP, TRAFFIC and other appropriate collaborators should be invited to advise Parties on the impact of the aquarium trade and the use of exotic pasture grasses on the conservation of biodiversity in inland water ecosystems and make the results of this study available to Parties.

Partners

GISP, ICSU-SCOPE.

^{2/} The project brief was distributed at the seventh meeting of SBSTTA (UNEP/CBD/SBSTTA/7/3).

Other collaborators

Secretariat and STRP of the Ramsar Convention and its STRP, CITES, TRAFFIC, Commonwealth Secretariat, FAO, IUCN, UNEP-WCMC, IWMI, ICLARM.

PROGRAMME ELEMENT 2: INSTITUTIONAL AND SOCIO-ECONOMIC ENABLING ENVIRONMENT

Goal 2.1: To promote the integration of conservation and sustainable use of the biological diversity of inland water ecosystems into relevant sectoral and cross-sectoral plans, programmes, policies and legislation

Context and linkages

Article(s) of the Convention on Biological Diversity: 6(a) and (b), 14.1 (b) and 18.1, 24.1 (d)

Strategic Plan objective(s): 1.2, 1.3, 1.5, 2.1, 3.1, 3.3, 3.4, 4.1, 4.3 and 4.4

Related element(s) of first programme of work: 9 (a) (i), 9 (e) (ii), 9 (g), 9 (j), 9 (l) (iii), 9 (m) (iv) and (v)

Intra and inter-programmatic linkages

Goal 3.5 (EIAs).

Plan of Implementation of the World Summit: paragraphs 32 (e) and 40 (b).

Objectives:

(a) Relevant sectoral plans, programmes, policies and legislation are compatible with, and where appropriate supportive of, plans, policies, programmes and laws for the conservation and sustainable use of the biological diversity of inland waters.

(b) Strategic environmental assessments are operating to ensure national institutional arrangements (plans, programmes, policies and legislations) are supporting the implementation of this programme of work.

(c) The national implementation of relevant multilateral environment agreements, which relate to inland water biodiversity and ecosystems, is taking place in an integrated, efficient and effective way.

Activities of the Parties

2.1.1. Undertake reviews and introduce reforms to policies, legal and administrative frameworks as necessary, in order to integrate the conservation and sustainable use of inland water biodiversity into the mainstream of government, business, and societal decision-making.

2.1.2. Apply, as urged by decision VI/7, the guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes (see goal 3.3) and in strategic environmental assessment[, which should not be used in violation of international law, including trade-related agreements].

2.1.3. Review institutional arrangements (policies, strategies, focal points and national reporting approaches) for national implementation of relevant multilateral

environment agreements (see objective (c) above) and introduce reforms to streamline and, where appropriate, integrate implementation.

- 2.1.4. Provide the Executive Secretary with case-studies and information on lessons learned from policy, legal and institutional review and reform processes relating to inland water biodiversity and ecosystems, including measures taken to harmonize national implementation of the relevant multilateral environment agreements.

Supporting activities of the Executive Secretary

- 2.1.5. Identify and make available to Parties, guidance, case-studies and lessons learned, including those relating to the practical application of strategic environmental assessment, to assist in reviewing and fine-tuning institutional frameworks (plans, programmes, policies and legislations) for the conservation and sustainable use of the biological diversity of inland waters.
- 2.1.6. Continue to support and participate in the WCMC-led project on harmonizing information management between the five biodiversity-related Conventions (CBD, Ramsar, CITES, CMS and the World Heritage Convention).
- 2.1.7. Together with other relevant multilateral environmental agreements and interested Parties, seek the resources to establish working models (demonstration sites) showcasing the collaborative implementation of activities to achieve the complementary objectives of several multilateral environmental agreements.

Main partners

International Association for Impact Assessment (IAIA), Ramsar Bureau and STRP, UNFCCC, UNCCD, CITES, CMS, World Heritage, UNESCO MAB, WCMC.

Other collaborators

International Water Management Institute (IWMI), other relevant international, regional and national organizations and interested Parties.

Goal 2.2: To encourage the development, application and transfer of low-cost appropriate technology, non-structural and innovative approaches to water resource management and the conservation and sustainable use of the biological diversity of inland water ecosystems, taking into account any decision taken by the Conference of the Parties at its seventh meeting on technology transfer and cooperation

Context and linkages

Article(s) of the Convention on Biological Diversity: 16 and 17

Strategic Plan objective(s):

Related element(s) of first programme of work: 9 (b) (i) and (ii) and 9 (c)

Intra and inter-programmatic linkages: All others.

Plan of Implementation of the World Summit: paragraphs 9 (e), 10 (a), 25 (a), (c) and (d), 26 (e) and (f), 28, 41 (a) and 54 (l)

Objectives

(a) Promote the development, documentation and transfer of appropriate technologies and approaches to water-resource management and the conservation and sustainable use of the biological diversity of inland water ecosystems.

(b) Apply, as appropriate, the technologies and approaches identified and made available in response to the above objective.

Activities of the Parties

2.2.1. Make available to the Executive Secretary information on appropriate technologies and effective approaches to managing biodiversity of inland water ecosystems for transfer to other Parties.

2.2.2. Encourage the use of low-cost (appropriate) technology, non-structural and innovative approaches, and, where appropriate and through prior informed consent in accordance with national laws traditional or indigenous practices for inland water biodiversity assessment and to meet watershed management goals, such as using wetlands to improve water quality, using forests and wetlands to recharge groundwater and maintain the hydrological cycle, to protect water supplies and using natural floodplains to prevent flood damage, and to use, whenever possible, indigenous species for aquaculture.

2.2.3. Encourage the development of preventative strategies such as cleaner production, continual environmental improvement, corporate environmental reporting, product stewardship and environmentally sound technologies to avoid degradation and promote maintenance, and, where applicable, restoration of inland water ecosystems.

2.2.4. Emphasize more effective conservation and efficiency in water use, together with non-engineering solutions. Environmentally appropriate technologies should be identified, such as low-cost sewage treatment and recycling of industrial water, to assist in the conservation and sustainable use of inland waters.

Supporting activities of the Executive Secretary

2.2.5. Through the clearing-house mechanism, make available to Parties information on appropriate technologies and approaches to water resource management and the conservation and sustainable use of the biological diversity of inland water ecosystems.

2.2.6. Through partnerships with relevant organizations seek to provide Parties with access to the latest technologies and innovative management approaches relating to programme elements 1 and 3 developed by the private sector, catchment-management bodies and others actively engaged in integrated water resource management.

Main partners

Challenge Programme on Water and Food of the Consultative Group for International Agricultural Research (CGIAR), the International Water Management Institute (IMWI), Ramsar Bureau and STRP

Other collaborators

Relevant international, regional and national organizations and interested Parties.

Goal 2.3: *To provide the appropriate incentives and valuation measures to support the conservation and sustainable use of inland water biological diversity, and to remove, or reform appropriately, all perverse incentives opposing such conservation and sustainable use of ecosystems[, and which include those subsidies to local production and/or consumption that distort international trade][consistent with decision VI/15]*

Context and linkages

Article(s) of the Convention on Biological Diversity: 11

Strategic Plan objectives: 1.2, 1.3, 1.5, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraphs 8(d), 9(f)(i) and (iii), 9(m)

Intra and inter-programmatic linkages:

Goal 2.1 – in relation to strategic environmental assessment.

Plan of Implementation of the World Summit: Articles 26 (b) and 40 (k)

Objectives

(a) Apply for inland water biological diversity the proposals for the design and implementation of incentive measures (as endorsed through decision VI/15 of the Conference of the Parties to the Convention on Biological Diversity and contained in annex I of that decision).

(b) Encourage valuation of the full range of goods and services provided by inland water biological diversity and ecosystems in development proposals and with respect to applying incentive measures, and the identification and removal or modification of perverse incentives.

Activities of the Parties

2.3.1. Apply to inland water ecosystems the proposals for the design and implementation of incentive measures, including identification and removal or mitigation of perverse incentives, as endorsed by the Conference of the Parties in decision VI/15 and taking into account land tenure systems. In particular:

- (a) Review the range and effectiveness of national incentives, subsidies, regulations, and other relevant financial mechanisms, which can affect inland water ecosystems, whether adversely or beneficially;
- (b) Redirect, as appropriate, financial support measures, that run counter to the objectives of the Convention regarding the biological diversity of inland waters;
- (c) Implement targeted incentive and regulatory measures that have positive impacts on the biological diversity of inland waters;
- (d) Develop the policy research capacity needed to inform the decision-making process in a multidisciplinary and sectorally integrated manner;
- (e) Encourage the identification of the interdependence between conservation and sustainable use of inland water ecosystems and sustainable development;
- (f) At appropriate levels (regional, national, subnational and local), encourage the identification of stressed inland waters, the allocation and reservation of water for the maintenance of ecosystem functions, and the maintenance of

environmental flows as an integral component of appropriate legal, administrative and economic mechanisms.

- 2.3.2. In accordance with decision VI/15, submit case-studies, lessons learned and other information on positive or perverse incentives, land-use practices and tenure relating to inland water biodiversity to the Executive Secretary. Include within this submission national experiences and guidance in relation to water rights, markets and pricing policies.
- 2.3.3. Undertake comprehensive valuations of the goods and services of inland water biodiversity and ecosystems, including their intrinsic, aesthetic, cultural, socio-economic and other values, in all relevant decision-making across the appropriate sectors (see also goal 3.3 in relation to environmental, cultural and social impact assessments).

Supporting activities

- 2.3.4. The Ramsar STRP should be invited to consider the proposals of the Conference of the Parties to the Convention on Biological Diversity for the design and implementation of incentive measures (as endorsed through decision VI/15) and identify ways and means to see this guidance developed further, specifically for inland water ecosystems.
- 2.3.5. SBSTTA should compile and disseminate studies on valuation of inland water ecosystem goods and services; and identify ways and means to further integrate the use of economic valuation into national inland water-related plans, programmes and policies (e.g., within integrated water management approaches) as a core component of policy reform.
- 2.3.6. In collaboration with key partners such as OECD, IAIA, IUCN, WWF, the Ramsar STRP and Bureau, the Executive Secretary should compile information on relevant guidance, resource kits and other information on incentive measures, including that relating to the development of incentives options through water rights, markets, pricing policies and land use and tenure. More specifically, he may wish to:
 - (a) Compile and disseminate case studies and best practices on the use of incentive measures for the management of inland water ecosystem goods and services;
 - (b) Further explore the advantages and disadvantages of wetland mitigation banking, including the identification of institutional requirements, possible shortcomings and limitations;
 - (c) Further explore the respective advantages and disadvantages of tax/charge approaches as well as their interaction, including the identification of institutional requirements, possible shortcomings and limitations;
 - (d) Identify ways and means to further integrate the use of incentive measures into inland water-related plans, programmes and policies, including opportunities for the removal or mitigation of perverse incentives;

- (e) Further monitor recent discussions on incentive measures with a view to identifying other measures of specific use for the sustainable management of inland water ecosystems.

Main partners

Secretariat and STRP of the Ramsar Convention on Wetlands, IUCN, WWF, IWMI.

Other collaborators

Relevant international, regional and national organizations and interested Parties.

Goal 2.4: *To implement the programme of work for the Global Initiative on Communication, Education and Public Awareness (as adopted by the Conference of the Parties to the Convention on Biological Diversity in its decision VI/19), giving particular attention to matters relating to the conservation and sustainable use of the biological diversity of inland water ecosystems*

Context and linkages

Article(s) of the Convention on Biological Diversity: 13

Strategic Plan Objectives: 3.1, 3.4, and 4.1

Related element(s) of first programme of work: paragraph 9 (i)

Intra and inter-programmatic linkages:

Programme of work for the global initiative on communication, education and public awareness (as adopted by the Conference of the Parties in decision VI/19)

Plan of Implementation of the World Summit: paragraphs 7 (c) and 41 (d)

Objectives

(a) Comprehensive and well-targeted national programmes for communication, education and public awareness for the conservation and sustainable use of the biological diversity of inland water ecosystems are put in place and operate effectively;

(b) Key national, catchment/river basin and local-level decision makers and stakeholders are identified and appropriate communication mechanisms are established between them.

Activities of the Parties

2.4.1. Review the Global Initiative on Communication, Education and Public Awareness (CEPA) contained in decision VI/19 with a view to identifying how best to promote its application for supporting the implementation of the programme of work on inland water biological diversity, as appropriate, taking into account the second CEPA programme adopted by the Conference of the Contracting Parties to the Ramsar Convention at its eighth meeting.

2.4.2. In undertaking activity 2.4.1, identify case-studies and best practices and provide these to the Executive Secretary to be made available to other Parties.

2.4.3. Ensure effective working linkages between the focal points for the Convention on Biological Diversity, and the Ramsar (government and non-government) focal points for wetlands communication, education and public awareness, including the

amalgamation, at a national level, of communication, education and public awareness (CEPA) programmes under both conventions.

- 2.4.4. Identify key national, catchment/river basin and local level decision makers and stakeholders and establish appropriate communication and awareness raising mechanisms to ensure they are all informed of, and supporting through their actions, the implementation of this programme of work.
- 2.4.5. Undertake suitable initiatives to enhance awareness of the knowledge held by indigenous and local communities and the appropriate procedures, such as prior informed consent, for accessing such knowledge in accordance with national legislation on access to traditional knowledge.
- 2.4.6. Review, and as necessary reform, formal educational curricula to ensure they are operating to inform and educate about the conservation and sustainable use of the biological diversity of inland water biological diversity.

See also activity 3.1.5 in relation to the communication of research findings.

Supporting activities of the Executive Secretary:

- 2.4.7. In collaboration with key partners and collaborators, review the global initiative on communication, education and public awareness and develop and make available guidance for Parties on how best to promote its application for supporting this programme of work.
- 2.4.8. Pursuant to activity 2.4.2, make available to Parties case-studies, advice on best practice approaches, plus other sources of information and expertise in the field of communication, education and public awareness.

Main partners

UNEP, UNESCO, Ramsar Bureau and CEPA Working Group, IUCN, Wetlands International

Other collaborators

Ramsar national focal points for communication, education and public awareness, other multilateral environmental agreements, relevant international, regional and national organizations.

Goal 2.5: Promote the involvement of local and indigenous communities and other relevant stakeholders in the conservation and sustainable use of biological diversity of inland water ecosystems

Context and linkages

Article(s) of the Convention on Biological Diversity: 8(j), 10, 17, 18

Strategic Plan objectives: 4.3

Related element(s) of first programme of work: 9 (1)

Intra and inter-programmatic linkages:

Goal 2.1 (Integration with other sectors etc)

Goal 3.3 (Cultural, environmental and social impact assessment)

Plan of Implementation of the World Summit: paragraphs 7(c), 24, 40 (b), (d) and 66 (a)

Objective

Relevant stakeholders, including representatives of local and indigenous communities, are involved, as far as appropriate, in the policy-making and in the planning, implementation and monitoring of the implementation of the programme of work.

Activities of the Parties

- 2.5.1. Involve, as far as possible and appropriate, local and indigenous communities in the development of management plans and in the implementation of projects that may affect inland water biological diversity.
- 2.5.2. Implement Article 8(j) as related to inland water biological diversity.
- 2.5.3. Encourage appropriate involvement and participation of affected parties, including end-users and local and indigenous communities, in policy-making, planning and implementation
- 2.5.4. Implement capacity-building measures to facilitate the involvement of indigenous and local communities and the application of indigenous knowledge, with their prior informed consent in accordance with national laws, in the management, conservation and sustainable use of biological diversity of inland water ecosystems.

Activities of the Executive Secretary

- 2.5.5. Promote the implementation of the programme of work and decisions of the Conference of the Parties on Article 8 (j) and related provisions.

Main partners

FAO and other relevant organizations

PROGRAMME ELEMENT 3: KNOWLEDGE, ASSESSMENT AND MONITORING

Goal 3.1: To develop an improved understanding of the biodiversity found in inland water ecosystems, how these systems function, their ecosystem goods and services and the values they can provide

Context and linkages

Article(s) of the Convention on Biological Diversity: 5, 7, 12, 14, 17, 18

Strategic Plan objectives: 1.2, 1.3, 2.1, 2.5, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraphs 1, 8 (a), 9 (d), 13, 15 (b), 16, 18 and 21

Intra and inter-programmatic linkages:

Goal 1.1 relates to implementation of the ecosystem approach

Goal 2.4 (Communication, education and public awareness) is relevant also.

This goal also has links with all other goals under programme element 3.

Plan of Implementation of the World Summit: paragraph 40 (c)

Objectives

- (a) Develop an improved picture of the status and trends of the biological diversity of inland waters, its uses, taxonomy and threats and ensure adequate dissemination of this information.
- (b) Establish, maintain and further develop expertise in inland water biological diversity and ecosystems.

Activities of the Parties

- 3.1.1. Encourage, and where possible support, applied research to gain an improved understanding of the status, trends, taxonomy and uses of biological diversity in inland water ecosystems, including transboundary systems where applicable.
- 3.1.2. Promote research to improve the understanding of the social, economic, political and cultural drivers within civil society that are directly impacting on the conservation and sustainable use of the biological diversity of inland waters.
- 3.1.3. In line with the Global Taxonomy Initiative (GTI) encourage studies aimed at improving the understanding of the taxonomy of the biological diversity of inland water ecosystems.
- 3.1.4. Support efforts to achieve international consistency and interoperability of taxonomic nomenclature, databases and metadata standards, as well as data-sharing policies.
- 3.1.5. As part of national communication, education and public awareness activities/programme (see goal 2.4), provide mechanisms for disseminating research findings to all relevant stakeholders, in a form which will be most useful to them. Make this same information available to the Executive Secretary to for sharing with other Parties.

Supporting activities of the Executive Secretary

- 3.1.6. Strengthen working partnerships with appropriate organizations and institutions which undertake, or can assist in mobilizing, research efforts leading to an improved understanding of the biodiversity and functioning of inland water ecosystems, and the practical application of the ecosystem approach.
- 3.1.7. As part of the agreed programme of work for the GTI, support and assist, in collaboration with suitable partners, the development of the series of regional guides to the taxonomy of freshwater fish and invertebrates (including adult terrestrial forms where appropriate) as an input to ecosystem monitoring for river and lake health (as specified by decision VI/8 of the Conference of the Parties to the Convention on Biological Diversity).
- 3.1.8. Further develop methods and techniques for the valuation of goods and services of inland water ecosystems, incentives and policy reform, and the understanding of ecosystem function.

Main partners

IUCN, UNEP, WCMC, WRI, FAO, World Fisheries Trust.

Collaborators

Global International Waters Assessment (GIWA), World Water Assessment Programme (WWAP), Millennium Ecosystem Assessment, FAO, Global Environmental Outlook, Global Biodiversity Information Facility (GBIF), WRI, Conservation International, and other relevant international, regional and national organizations.

Goal 3.2: *To develop, based on inventories, rapid and other assessments applied at the regional, national and local levels, an improved understanding of threats to inland water ecosystems and responses of different types of inland water ecosystems to these threats*

Context and linkages

Article(s) of the Convention on Biological Diversity: 7 (a), (c) and (d)

Strategic Plan objectives: 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraphs 6, 7, 8 (b), 9 (e) (i)-(iv) and 9 (m) (v), 12, 19 and 20

Intra and inter-programmatic linkages:

Goal 1.2 (Integrating biodiversity conservation into water management).

Goal 1.3 (*In situ* conservation through protected areas).

Goals 3.3, and 3.4.

Plan of implementation of the World Summit: paragraph 66 (c)

Objectives

(a) Assessments and inventories of inland water biodiversity undertaken, including the urgent identification of stressed inland water ecosystems and those mentioned in Annex I of the Convention.

(b) Rapid assessments, using suitable indicators, being undertaken for inland water biodiversity, in particular in small island States and States where inland water ecosystems suffer from ecological disasters.

(c) Build national capacity for undertaking the above-mentioned assessments through appropriate mechanisms.

See also goal 3.3 in relation to environmental, cultural and social impact assessments.

Activities of the Parties

3.2.1. In accordance with the priorities set down in national biodiversity strategies and action plans, undertake comprehensive national inventories and assessments of inland water biological diversity, which may be regarded as important in accordance with the terms of Annex I of the Convention. Furthermore, undertake assessments of threatened habitats and species, and conduct inventories and impact assessments of alien species in inland water ecosystems using the guidelines adopted by the Conference of the Parties in decision VI/7 A. The transboundary nature of many inland water ecosystems should be fully taken into account in assessments, and it may be appropriate for relevant regional and international bodies to contribute to such assessments.

- 3.2.2. Identify the most cost-effective approaches and methods to describe the status, trends and threats of inland waters and indicate their condition in functional as well as species terms.
- 3.2.3. Adopt an integrated approach in the assessment, management and, where possible, remedial actions of inland water ecosystems, including associated terrestrial and in-shore marine ecosystems. It should be noted that:
- (a) Assessments should involve all stakeholders, including indigenous and local communities, should be cross-sectoral and should make full use of indigenous knowledge based on prior informed consent;
 - (b) Suitable organisms should be identified as being particularly important in the assessment of inland water ecosystems. Ideally, such groups (taxa) should meet the following criteria:
 - (i) The group should contain a reasonable number of species with varied ecological requirements;
 - (ii) The taxonomy of the group should be reasonably well understood;
 - (iii) The species should be easy to identify;
 - (iv) The group should be easy to sample or observe so that density - absolute or as indices - can be assessed, used objectively and treated statistically;
 - (v) The group should serve as indicators of overall ecosystem health or indicators of the development of a key threat to ecosystem health; ^{3/}
 - (c) In view of the great economic importance of some groups (e.g. inland water fish species), and of the large gaps in taxonomic knowledge for many species, capacity-building in taxonomy should focus on inland water biodiversity of economic importance.
- 3.2.4. Apply the rapid assessment guidelines for national circumstances and adapt these as necessary to suit current and emerging priorities. In accordance with SBSTTA recommendation II/1, endorsed by the Conference of the Parties in decision III/10, assessments should be simple, inexpensive, rapid and easy to use. Such rapid assessment programmes will never replace thorough inventories.
- 3.2.5. Seek the resources, opportunities and mechanisms to build national capacity for undertaking assessments and inventories.
- 3.2.6. Promote the development of criteria and indicators for the evaluation of the impacts on inland water ecosystems from both physical infrastructure projects and watershed activities, including, *inter alia*, agriculture, forestry, mining and physical alteration, taking into consideration the natural variability of water conditions. ^{4/}
- 3.2.7. Assessments should be carried out with a view to implementing other articles of the Convention and, in particular, to addressing the threats to inland water ecosystems within an appropriate framework such as that included in paragraphs 39-41 of the note

^{3/} See decision IV/4, annex I, paragraph 15.

^{4/} See decision IV/4, annex I, paragraph 9 (e) (ii).

by the Executive Secretary on options for implementing Article 7 of the Convention prepared for the third meeting of the Conference of the Parties (UNEP/CBD/COP/3/12). Of particular importance is the undertaking of environmental impact assessments on biological diversity of development projects involving inland water ecosystems.

Supporting activities

- 3.2.8. Make available to Parties guidelines for rapid, simple, inexpensive, and easy-to-use assessments of inland water biological diversity, taking into account the different types of such ecosystems and regional considerations, and giving special consideration to the priority needs of small island developing States, and States in which inland water ecosystems are suffering from ecological disasters.
- 3.2.9. In collaboration with the Ramsar Convention and other partners, make available to Parties guidance for:
- (a) Undertaking national inventories and assessments of inland water biological diversity;
 - (b) The identification of stressed inland water ecosystems;
 - (c) The national elaboration of Annex I of the Convention on Biological Diversity in relation to biological diversity of inland waters;
 - (d) A list of indicators grouped as driver, state, impact, and response to pressures on biological diversity of inland water ecosystems (taking into account the implementation of decision VI/7 B of the Conference of the Parties to the Convention on Biological Diversity, on monitoring and indicators).
- 3.2.10. Through continued collaboration with global and regional assessments including, but not restricted to, GIWA, WWAP, the Millennium Ecosystem Assessment, the FAO Fisheries Assessment, GEO, GBIF, the report on State of the World's Plant and Animal Resources and the IUCN Freshwater Biodiversity Assessment and Red List of Threatened Species, seek to advance the generation of information on status and trends, which can assist and support global, transboundary and national priority setting processes for the conservation and sustainable use of inland water biodiversity.
- 3.2.11. Make available to Parties information on the various global and regional assessments referred to in activity 3.2.10, and how these may offer information to support the implementation of national biodiversity strategies and action plans in relation to inland waters.

Main partners

Ramsar Bureau and STRP of the Ramsar Convention on Wetlands, Conservation International.

Other collaborators

UNESCO (SIDS programme), GIWA and WWAP, the Millennium Ecosystem Assessment and other relevant international, regional and national organizations particularly those active in the small island States. Relevant international, regional and national organizations.

Goal 3.3. *To ensure projects and actions with the potential to impact negatively on the biological diversity of inland water ecosystems are subjected, in accordance with national legislation and where appropriate, to suitably rigorous impact assessments, including consideration of their potential impact on sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities*

Context and linkages

Article(s) of the Convention on Biological Diversity: 14

Strategic Plan objectives: 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: paragraphs 9 (e) (ii), 18, and 20

Intra and inter-programmatic linkages:

Goal 2.1 Strategic environmental assessments are a core part of integrating biodiversity conservation considerations into national institutions and programmes

This element of the inland waters programme of work is a further elaboration for the cross-cutting work on impact assessment being pursued by the Convention.

Plan of Implementation of the World Summit: paragraph 37

Objectives

(a) Undertake environmental impact assessments, in accordance with national legislation and where appropriate, for all projects with the potential to impact on the biological diversity of inland water ecosystems, ensuring that these take into account the "...inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse". ^{5/}

(b) Conduct cultural, environmental, and socio-economic impact assessments, in accordance with national legislation and where appropriate, regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities, in accordance with decision VI/10.

Activities of the Parties:

3.3.1. Taking into account decision VI/7 A of the Conference of the Parties to the Convention on Biological Diversity, on guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment, and decision VI/10, on Article 8 (j) and related provisions, including its annex II, containing recommendations for the conduct of cultural, environmental, and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities:

(a) Apply environmental impact assessments on water-development projects, aquaculture and watershed activities including agriculture, forestry and mining, and best predictions with well designed sampling schemes that can adequately distinguish the effects of anthropogenic activities from natural processes;

^{5/} Paragraph 1 (a) of the annex to decision VI/7 A.

- (b) Apply environmental impact assessments which assess the impacts, not only of individual proposed projects, but also the cumulative effects of existing and proposed developments on the watershed, catchment or river basin; and
 - (c) Incorporate, where appropriate, environmental flow assessments into impact assessment processes for any projects with the potential to have negative effects on inland water ecosystems, and also undertake baseline ecosystem assessments in the planning phase to ensure that the necessary basic data will be available to support the environmental impact assessment process and the development of effective mitigation measures if necessary.
- 3.3.2. Apply the recommendations for the conduct of cultural, environmental, and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities.
- 3.3.3. For transboundary inland water ecosystems undertake, where feasible and appropriate and by agreement between the Parties concerned, collaborative impact and environmental flow assessments when applying the Convention's guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment.

Supporting activities of the Executive Secretary

- 3.3.4. Collaborate with the International Association for Impact Assessment (IAIA) and other relevant organizations to contribute to the implementation of decision VI/7 A on further development and refinement of the guidelines, particularly to incorporate all stages of the environmental impact assessment processes taking into account the ecosystem approach.
- 3.3.5. Compile
- (a) Information on impact assessment and other methodologies that address inland water biological diversity issues in an adaptive management framework; and
 - (b) Examples of the impacts of invasive alien species and of programmes used to control their introduction and mitigate negative consequences on inland water ecosystems especially at the watershed, catchment and river-basin level.

Main partners

IAIA, Ramsar Convention Bureau and STRP, IUCN, Conservation International.

The Ramsar Bureau is expected to share with the Executive Secretary of the Convention on Biological Diversity the resolutions of the eighth meeting of the Conference of the Contracting Parties to the Ramsar Convention concerning the guidelines for integrating biodiversity considerations into environmental impact assessments legislation and/or processes and in socio-economic impact assessment, annexed to decision VI/7 A.

Other collaborators

Other relevant international, regional and national organisations and interested Parties.

Goal 3.4. To introduce and maintain appropriate monitoring arrangements to detect changes in the status and trends of inland water biodiversity

Context and linkages

Article(s) of the Convention on Biological Diversity: 7 (b)

Strategic Plan objectives: 2.1, 3.1, 3.3 and 3.4

Related element(s) of first programme of work: New element

Intra and inter-programmatic linkages:

Goal 3.2 – Indicators, national inventories, rapid and other assessments

Plan of Implementation: paragraph 66(c)

Objective

Establish and maintain national monitoring programmes for the components of inland water biodiversity, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use.

Activities of the Parties

- 3.4.1. Introduce appropriate monitoring regimes based on the Convention on Biological Diversity and other guidance for priority inland water biodiversity and ecosystems in the first instance, taking into account the implementation of decision VI/7 on identification, monitoring, indicators and assessments and possible adoption by the Conference of the Parties at its seventh meeting of principles for developing and implementing national-level monitoring and indicators.

Supporting activities of the Executive Secretary

- 3.4.2. Develop a proposal on the establishment of monitoring programmes for inland water ecosystems taking into account existing guidance, including the Ramsar Convention guidance, relating to the establishment of monitoring programmes for wetland sites

Lead partners

Ramsar Convention Bureau and STRP

Other collaborators

Relevant international, regional and national organizations.

VIII/3. Marine and coastal biodiversity: review, further elaboration and refinement of the programme of work

A. Review of the programme of work on marine and coastal biodiversity

The Subsidiary Body on Scientific, Technical and Technological Advice

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

(a) *Takes note* that progress has been made in the implementation of the programme of work at the national, regional and global levels and that facilitation of implementation has been undertaken by the Secretariat;

(b) *Decides* that the programme elements of the programme of work still correspond to global priorities, which are not fully implemented, and therefore *extends* the time period of the programme of work by an additional six years, taking into account the multi-year programme of work of the Conference of the Parties up to 2010;

2. *Recognizes* that some refinement to the programme of work is needed as a result of recent developments and new priorities, and that such refinement be undertaken by:

(a) Incorporating the recommendations set out below, in relation to marine and coastal protected areas, mariculture, and the conservation and sustainable use of deep seabed genetic resources beyond the limits of national jurisdiction, into programme elements 3, 4 and 2 respectively of the programme of work, and developing associated detailed work plans based on these recommendations for consideration by the Conference of the Parties at its seventh meeting;

(b) Deciding to establish an additional ad hoc technical expert group, which includes representatives of indigenous and local communities, on the topic of integrated marine and coastal area management, for the elaboration of programme element 1. The terms of reference of the expert group are annexed to the present decision;

(c) Considering the elaboration of programme element 5 on invasive alien species in accordance with relevant decisions of the Conference of the Parties by inviting relevant organizations such as the International Maritime Organization (IMO), the Global Invasive Species Programme (GISP), the Food and Agriculture Organization of the United Nations (FAO), and the Ramsar Convention on Wetlands to work together to develop an international cooperative initiative to address impediments to the management of marine alien species, particularly to address technical problems related to the identification and control of marine invasions;

(d) Emphasizing the implementation of the ecosystem approach in relation to the programme of work on marine and coastal biological diversity;

(e) Considering the necessity of collaboration between the Secretariats of the Convention on Biological Diversity and the regional seas conventions and action plans, including identification of joint programmes of work, based on regionally elaborated criteria for the establishment and management of marine and coastal protected area under regional seas conventions and action plans;

(f) Considering the need for cooperation with, and building on the Large Marine Ecosystems (LME) concept, as well as specific LME projects that are ongoing or planned;

(g) Considering the incorporation of the results of the World Summit on Sustainable Development as priority actions into each appropriate programme element of the programme of work;

(h) Considering the incorporation of enabling activities into the programme of work in order to overcome obstacles to its implementation, including actions to facilitate the formation of cooperative partnerships to enhance capacity and implementation, taking into account the special needs and difficulties experienced by stakeholders in developing countries and by indigenous and local communities;

(i) Considering the setting of clear targets for the implementation of activities, taking into account the Plan of Implementation of the World Summit on Sustainable Development and the Strategic Plan of the Convention;

(j) Considering setting a goal for the programme of work to achieve significant reduction of the current rate of marine and coastal biological diversity loss by the year 2010;

3. *Requests* that the Executive Secretary, in collaboration with a liaison group, elaborate the programme of work on marine and coastal biological diversity, based on the guidance given in subparagraph 2. above, and present it for consideration of the Conference of the Parties at its seventh meeting;

4. *Recommends* that a regular and systematic review of the implementation of the programme of work on marine and coastal biological diversity be undertaken at six-year intervals.

Annex

**DRAFT TERMS OF REFERENCE FOR AN AD HOC TECHNICAL EXPERT GROUP
ON IMPLEMENTATION OF INTEGRATED MARINE AND COASTAL AREA
MANAGEMENT (IMCAM)**

A. Mandate

1. The Ad Hoc Technical Expert Group on Implementation of Integrated Marine and Coastal Area Management (IMCAM) will undertake the following tasks:

(a) Review the work undertaken under programme element 1 (IMCAM) of the programme of work on marine and coastal biological diversity, including the existing guidance on the Convention on Biological Diversity and IMCAM developed by the Government of the Netherlands; the Ramsar Convention guidelines; relevant regional initiatives; the results of the ad hoc technical expert groups on marine and coastal protected areas and mariculture; the relevant sections of the Plan of Implementation of the World Summit on Sustainable Development; and the obstacles to implementation identified by Parties;

(b) Based on task (a), propose a set of targeted enabling activities that could best overcome the identified obstacles to the implementation of IMCAM nationally and regionally; and propose ways and means, such as partnerships or other means, through which they could be undertaken within the context of the Convention;

(c) Identify existing tools, including policy, institutional, technological and financial tools and mechanisms that can be used to overcome obstacles to national and regional-level implementation of IMCAM. Provide guidance to Parties on the application of such tools;

(d) Based on tasks (a), (b), and (c), propose priority areas for the work of the Convention, aimed at the implementation of IMCAM globally.

(e) When undertaking all of the tasks described above consider the special needs of and difficulties faced by stakeholders in developing countries and indigenous and local communities, and identify ways and means to foster international cooperation to assist those countries.

B. Duration of work

2. The Ad Hoc Technical Expert Group on the Implementation of IMCAM will start its work after the ninth meeting of SBSTTA, and will complete it no later than the eleventh meeting of the Subsidiary Body, keeping in mind the urgency of this matter taking into account the multi-year programme of work of the Convention.

B. Marine and coastal protected areas

The Subsidiary Body on Scientific, Technical and Technological Advice *recommends* that the Conference of the Parties

1. *Welcomes* the report of the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas, ^{1/} thanks the Governments of New Zealand and the United States of America, and the World Conservation Union (IUCN), for their financial, organizational and technical support for this work, and thanks the Chair and members of the Ad Hoc Technical Expert Group for their work.

2. *Notes* that marine and coastal biodiversity is under rapidly increasing and locally acute human pressure, such that globally, regionally and nationally marine and coastal biodiversity is declining or being lost. One of the reasons for this level of threat is the very low level of development of marine and coastal protected areas.

3. *Notes* that marine and coastal protected areas have been proven to:

- (a) Protect biodiversity;
- (b) Ensure sustainable use of resources; and
- (c) Manage conflict, enhance economic well-being and improve the quality of life;

4. *Notes* that there are increasing numbers of marine and coastal protected areas, but in many cases they have not been effective because of problems related to their management, size and habitat coverage;

5. *Notes also* that the data available indicate that regionally and globally, marine and coastal protected area networks are severely deficient, and probably protect a very small proportion of marine and coastal environments and make a relatively small contribution to sustainable management of marine and coastal biodiversity;

Goals of marine and coastal protected areas

6. *Agrees* that marine and coastal protected areas are an essential element in the conservation and sustainable use of marine and coastal biodiversity, and that the establishment of marine and coastal protected areas, where they are within areas under national jurisdiction, shall be in accordance with national legislation, programmes and policies, where they exist, and in accordance with international law where they are in areas beyond national jurisdiction;

7. *Notes* that there is an international body of evidence demonstrating that those marine and coastal protected areas where extractive uses are excluded have benefits for fisheries in surrounding areas, for communities, and for sustainable tourism and other economic activities within and outside the marine and coastal protected area;

8. *Agrees* that the goal for work under the Convention relating to marine and coastal protected areas should be:

^{6/} The timeframes for **proposed** outcomes will have to be agreed to in consultation with Parties. This could be part of recommendation 2 (d) requesting the Executive Secretary, in consultation with Parties, to develop targets for the implementation of the programme of work.

“The establishment and maintenance of marine and coastal protected areas that are effectively managed, ecologically based and contribute to a permanent representative global network of marine and coastal protected areas, building upon national networks, including a range of levels of protection, where human activities are managed, particularly through national legislation, regional programmes and policies, traditional and cultural practices and international agreements, to maintain the structure and functioning of the full range of marine and coastal ecosystems, in order to provide benefits to both present and future generations.”;

9. *Notes* that the World Summit on Sustainable Development, to promote the conservation and management of the oceans, agreed to develop and facilitate the use of diverse approaches and tools, such as the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks, by 2012, and time/area closures for the protection of nursery grounds and spawning periods and *agrees* to adopt this approach for the work of the Convention on marine and coastal protected areas, and to develop a strategy to meet this goal, including indicators of progress;

National framework of marine and coastal protected areas

10. *Recognizes* that marine and coastal protected areas should be a part of a wider integrated marine and coastal area management framework and, accordingly, *urges* Parties and other Governments with jurisdiction over marine and coastal areas to establish, as a matter of high priority and urgency, an effective marine and coastal biodiversity management framework, covering all areas subject to national jurisdiction, including the exclusive economic zone and continental shelf areas and deep sea basins, incorporating the elements set out in annex IV below, including by establishing new marine and coastal protected areas and by improving the effectiveness of existing marine and coastal protected areas;

11. *Agrees* that an effective marine and coastal biodiversity management framework as set out in annex IV would comprise sustainable management practices and actions to protect biodiversity over the wider marine and coastal environment, including an integrated network of marine and coastal protected areas consisting of:

(a) Representative areas where extractive uses are excluded, and other significant human pressures are removed or minimized, to enable the integrity, structure and functioning of ecosystems to be maintained or recovered; and

(b) Other marine and coastal protected areas which may complement the biodiversity objectives of the areas referred to in subparagraph (a) above, where threats are managed for the purpose of biodiversity conservation and/or sustainable use and thus where extractive uses may be allowed;

12. *Agrees* that the balance between category (a) and (b) marine and coastal protected areas in paragraph 11 above would be selected by the country concerned and that, in selecting an appropriate balance, the country should take into account the advice of the Ad Hoc Technical Expert Group that certain objectives such as scientific reference areas can only be achieved through the establishment of category (a) marine and coastal protected areas;

13. *Notes* that there are some benefits of the framework that can be provided with any degree of certainty only by including highly protected areas, and that to achieve the full benefits this network needs to include representative and distinctive areas and contain a sufficient area of the coastal and marine environment to be effective and ecologically viable;

14. *Agrees* that key factors for achieving effective management of marine and coastal protected areas include good governance, clear legal or customary frameworks to prevent damaging activities, effective compliance and enforcement, ability to control external activities that affect the marine and coastal protected area, strategic planning, capacity-building and sustainable financing;

15. *Urges* Parties to urgently address, through appropriate integrated marine and coastal management approaches, all threats, including those arising from the land (e.g. water quality, sedimentation) and shipping/transport, in order to maximize the effectiveness of marine and coastal protected areas and networks in achieving their marine and coastal biodiversity objectives taking into account possible effects of climate change such as rising sea levels;

16. *Agrees* that the participation of relevant stakeholders and indigenous and local communities is essential for achieving the global goal, and for the establishment and maintenance of individual marine and coastal protected areas and national and regional networks;

17. *Notes* the technical advice provided by the Ad Hoc Technical Expert Group, contained in annex II below and in its report, relating to marine and coastal protected areas within national jurisdiction, and *urges* Parties and Governments to utilize that advice in their work to establish a marine and coastal protected area network;

Marine and coastal protected areas in areas beyond national jurisdiction

18. *Notes* that there are increasing risks to biodiversity in areas beyond national jurisdiction and that marine and coastal protected areas are extremely deficient in purpose, numbers and coverage in these areas;

19. *Agrees* that there is an urgent need to establish in areas beyond national jurisdiction further marine and coastal protected areas consistent with international law, and based on scientific information, including in relation to areas of seamounts, hydrothermal vents, cold-water corals and open ocean;

20. *Takes into account* that jurisdiction in the high seas is provided for by the law of the sea and *requests* the Executive Secretary to work with other international bodies, particularly the United Nations Division for Ocean Affairs and the Law of the Sea, the International Seabed Authority, the International Maritime Organization, regional seas conventions and action plans, the Food and Agriculture Organization of the United Nations, regional fisheries organizations, the Intergovernmental Oceanographic Commission of United Nations Educational, Scientific and Cultural Organization, and other relevant organizations, to identify appropriate mechanisms for the establishment and effective management of marine and coastal protected areas beyond national jurisdiction, and report his findings to the Conference of the Parties;

Assessment, monitoring and research priorities

21. *Notes* that the research priorities and pilot projects set out in annex I will provide important assistance to national and regional efforts to establish and maintain marine and coastal protected areas and national and regional networks;

22. *Agrees* to incorporate the research priorities and pilot projects contained in annex I below into the programme of work in marine and coastal biodiversity, and *requests* the Executive Secretary to identify partners to adopt the research priorities and undertake these projects as a matter of urgency;

23. *Notes* that it is necessary to develop research programmes on the conservation of marine biological diversity resources beyond marine and coastal protected areas, with a view to establishing protected-area networks;

International support for the creation of networks of marine and coastal protected areas

24. *Urges* Parties, other Governments and relevant organizations to provide active financial, technical and other support for the establishment of a global system of marine and coastal protected area networks and the implementation within it of relevant provisions contained in this decision, including identification and removal of barriers to the creation of marine and coastal protected areas, and removal of perverse incentives for unsustainable activities in the marine and coastal environment, pursuant to decision VI/15, on incentive measures, within the framework of relevant marine-related international law;

25. *Decides* to examine the need for support through the financial mechanism to developing country Parties, in particular the least developed and small island developing States among them, for country-driven activities aimed at enhancing capabilities for activities relating to the establishment and maintenance of marine and coastal protected areas and networks of marine and coastal protected areas and in particular to assist Parties to develop systems to make their marine and coastal protection area networks self-sustaining in the medium to long term;

26. *Notes* that further technical advice related to network design and in particular ecological coherence of networks will be needed to assist Parties in implementation work, and request the Executive Secretary, in consultation with the Bureau of Subsidiary Body on Scientific, Technical and Technological Advice, to identify an appropriate mechanism for developing this advice and either activate that mechanism or report back to Subsidiary Body on Scientific, Technical and Technological Advice if approval by Subsidiary Body on Scientific, Technical and Technological Advice or the Conference of the Parties is necessary.

Monitoring progress toward the global goal

27. *Invites* the World Conservation Monitoring Centre of the United Nations Environment Programme, in collaboration with relevant organizations and authorities, to provide and maintain up-to-date information on marine and coastal protected areas, in line with the proposed categories for inventory and contextual information set out in annex III below, to provide a basis for the Convention's assessment work;

28. *Requests* the Executive Secretary to provide an assessment of progress toward the global goal, as part of reporting on the programme of work on marine and coastal biological diversity.

Annex I

RESEARCH PRIORITIES, INCLUDING PILOT RESEARCH AND MONITORING PROJECTS

The following research priorities and pilot projects were identified by the AHTEG in response to paragraphs (a) and (d) of the terms of reference. Each is designed to both explore and enhance the linkages between marine and coastal protected areas and the sustainable use of marine and coastal living resources. Achieving the goal of sustainable use of living resources is dependent on the social, economic and cultural context of each MCPA, and therefore a number of the research priorities focus on this aspect of MCPAs. The effects of MCPAs on population size and dynamics (paragraph (d) of the terms of reference) are investigated through priority 2.1 (connectivity and proportionality), priority 2.3 (d) (climate

change), priority 3.1 (MCPA size and location *versus* species and habitat dynamics), and priority 3.6 (b) (Percentage of protection required *versus* size and dynamics of local population).

A. Establishing a global network of MCPAs

Priority 1.1: Developing and implementing national, regional and global strategies towards establishing networks of MCPAs.

Pilot project:

- (a) Parties, regional bodies and relevant organizations to bring to the attention of the Secretariat of the Convention on Biological Diversity existing and planned initiatives towards the development of networks of MCPAs.
- (b) Draft action-oriented strategies for establishing MCPA networks, and implement those strategies in line with regional initiatives, for example by holding regional workshops.

B. Inventory and assessment of MCPAs and the global system

Priority 2.1: Assessing the representativeness, connectivity and proportionality of the existing MCPA system.

Pilot projects:

- (a) Undertake initiatives to map ecosystems and habitats within regions and biogeographic areas, and determine the minimum level of broad habitat categories required for assessing representativeness of MCPA networks. Use this as a basis for assessing representativeness of the existing MCPA network. This work should use a high-level framework that is compatible with the basis for global inventory work. One possible approach to this work is to hold regional workshops.
- (b) Assess connectivity to determine bioregions, and apply this information for evaluation of the existing MCPA network, as well as for identifying priority areas for the future.
- (c) Assess the effectiveness of the current MCPA network regionally and globally for the conservation and sustainable use of migratory species.

Priority 2.2: Developing appropriate databases at the national level to allow for an assessment of MCPA frameworks on a larger (regional/global) scale. Using these data to identify patterns among MCPAs to generate priority needs for future research and approaches for adaptive management.

Pilot projects:

- (a) Develop the high-level framework for the global inventory (see annex IV below), and related advice to national managers on national inventories.
- (b) Develop national databases for assessment of selected existing national/regional networks, selecting examples from the range of political, economic and biogeographic situations.
- (c) Undertake a global review of the current state of knowledge of MCPAs by region. Provide output in a format understandable for managers and policy makers.

Priority 2.3: Identifying the best indicators for assessing management effectiveness at various scales within an overall system.

Pilot projects:

- (a) Develop and test a suite of effective assessment measures, including indicators, on a number of existing sites (biological, socio-economic and governance-based indicators). Selected pilot sites must cover the range of cold, temperate and tropical regions.
- (b) Develop methods for evaluating the effectiveness of entire MCPA networks.
- (c) Develop methods for adapting MCPA management in response to possible changing species and habitat distribution patterns, which may result from climate change.

C. Implementation of MCPA networks

Priority 3.1: Develop methods to manage conflicts and generate support for adequate protection of biodiversity through area-specific approaches.

Pilot project:

- (a) Evaluate the long-term benefits (for example species changes, habitat changes and ecosystem changes) of protecting large-enough/significant-enough critical habitats and ecosystems, by developing case studies.

Priority 3.2: Establishing criteria for choosing MCPAs in countries that lack such criteria.

Pilot project:

- (a) Provide a conceptual model and best practice examples of criteria for selecting MCPAs, by undertaking linked work in a small number of selected countries.

Priority 3.3: Enhancing social and economic effects of MCPAs, particularly in terms of poverty alleviation.

Pilot projects:

- (a) Development of culturally sensitive MCPA development/management approaches to achieve effective participation, as appropriate, of indigenous and local communities and relevant stakeholders.
- (b) Develop adaptive approaches to MCPA establishment and management. This could be done by collection and dissemination of case studies of both best and worst-case examples of the degree to which an understanding of how target communities operate (socially/culturally) and “do business” can affect the success of MCPA establishment and management.

Priority 3.4: Developing effective “learning networks”—networking among MCPAs at the national/international level. Develop and test such networks in a representative range of test countries / regions.

Pilot projects:

- (a) Develop networks of communities/stakeholders of MCPAs to enable them to share and learn from experiences.

- (b) Compile information on existing learning networks, and develop guidance for the operation of such networks based on these experiences.

Priority 3.5: Developing effective methods for integrating traditional knowledge into MCPA establishment and management.

Pilot project:

- (a) Develop guidelines for integration of traditional knowledge, practices and innovation, with the participation of indigenous and local communities and with their prior informed consent in accordance with national legislation, into MCPA establishment and management, and support these by compiling and disseminating case studies on a wide range of examples from places where such initiatives have been undertaken (for example, New Zealand, Chile, the Wider Caribbean).

Priority 3.6: Developing strategies for integrating MCPAs and network development into long-term national and regional planning.

Pilot projects:

- (a) Develop strategies based on past experience and future needs for the range of geographical regions.
- (b) Develop methods for estimating the percentage of non-extractive protection required, in conjunction with national monitoring programmes, depending on the size and dynamics of local populations.
- (c) Incorporate considerations of sedimentation and water quality into planning and management processes.

Annex II

GUIDANCE FOR THE DEVELOPMENT OF A NATIONAL MARINE AND COASTAL BIODIVERSITY MANAGEMENT FRAMEWORK

1. For countries with no MCPAs or no highly protected MCPAs, the first step should be to develop the first few MCPAs, and the necessary mechanisms to allow future MCPAs and networks to be developed. The goals and objectives of each MCPA should be clearly established when they are created.
2. A strategic planning approach should be adopted at the national and regional levels when developing an ecologically viable framework for MCPA development. This should be based on past experiences in effective management, large-scale factors affecting MCPA viability and long-term goals.
3. Management should focus on ensuring that each MCPA, and the network, are fulfilling the identified goals and objectives. This will require evaluation of effectiveness, and adaptive management over time.
4. Key factors for achieving effective management of MCPAs include good governance, clear legal or customary frameworks to prevent damaging activities, effective compliance and enforcement, ability to control external activities that affect the MCPA, strategic planning, and sustainable financing.
5. Good governance will depend on having one or more bodies, each with the authority and capacity to undertake their responsibilities. When there is more than one body, including, in the case of

transboundary areas, bodies in different countries, mechanisms for coordinating and integrating management will be vital.

6. The legal or customary framework should clearly identify:
 - (a) Prohibited activities that will be contrary to the objectives of the MCPA;
 - (b) Those activities which will be allowed with clear restrictions or conditions to ensure that they will not be contrary to the objectives; and
 - (c) A decision-making process for all other activities.
7. Minimizing the number of discretionary activities is desirable in order to minimize potential harmful impacts in the MCPA.
8. Effective enforcement will depend on:
 - (a) Adequate enforcement capacity, including clear responsibilities, inter-agency coordination, trained and equipped personnel and the necessary legal or customary powers;
 - (b) Appropriate penalties and associated legal provisions; and
 - (c) Integration between enforcement, voluntary compliance and management.
9. Governments should be encouraged to urgently address, through appropriate integrated marine and coastal management approaches, all threats, including those arising from the land (e.g., water quality, sedimentation and marine debris), and shipping/transport in order to maximize the effectiveness of MCPAs and the network in achieving their objectives for marine and coastal biodiversity.
10. The AHTEG identified stakeholder participation as essential for achieving the global goal and for the establishment and maintenance of individual MCPAs and regional networks. Stakeholder participation would be particularly important in establishing equitable sharing of benefits accruing from creation of MCPAs. In addition, stakeholder participation would:
 - (a) Allow decisions to be made in an inclusive and transparent way;
 - (b) Facilitate the involvement in decision-making and management of a wide range of players, increasing the likelihood of success;
 - (c) Recognize traditional rights and customs, and other interests of indigenous and local communities and other relevant stakeholders in accordance with national law as appropriate; and
 - (d) Allow decisions and management to be undertaken at the appropriate level (e.g., through decentralization).
11. It was recognized that the type and extent of participation will depend on local circumstances, including issues such as the traditional rights, customs and traditions of indigenous and local communities in accordance with national law, available mechanisms and governance approaches, and the degree of interest of stakeholders.
12. The AHTEG prepared detailed technical advice to Parties to assist them in developing their systems. This advice has been presented to SBSTTA as an information document.

Annex III

**IMPROVEMENT OF AVAILABLE DATA FOR ASSESSMENT OF PROGRESS TOWARDS
THE GLOBAL GOAL**

1. Since 1981, UNEP-WCMC has developed and maintained a global database on protected areas. The importance of this database, which is managed in collaboration with the IUCN World Commission on Protected Areas, has been broadly recognized. Within the database is a subset of clearly identified marine and coastal protected areas.

2. The AHTEG examined available information, consulted UNEP-WCMC (and indirectly WWF-International), and concluded that global data on MCPAs should be improved and/or gathered in the following critical categories:

(a) **Location** (physical coordinates and country or political unit, including the names of neighbouring country/countries where the MCPA is transboundary);

(b) **Total size** of the protected area, the relative size of the marine and coastal component and, where transboundary, the total area under country jurisdiction;

(c) **Temporal aspects** e.g. permanency or seasonality of protection or management;

(d) **Type of protection and management** proposed or being implemented, using a simple three-tier system:

(i) Representative highly-protected areas where extractive uses are excluded;

(ii) Additional MCPAs;

(iii) Sustainable management practice in the wider coastal and marine environment.

(e) **Effectiveness of protection and management** gauged against the regime being proposed or being implemented, using a simple three-tier system:

(i) Currently fully effective – no significant problems known;

(ii) Currently partially effective – some deficiencies;

(iii) Currently ineffective – significant implementation problems;

(f) **Nationally-designated names** for type of protection and management e.g. marine park, marine and coastal nature reserve, etc.

(g) **Habitats protected and managed** (3D not just benthic).

(h) **Species protected and managed** (3D not just benthic).

(i) **Habitats and species specifically excluded from protection/management within the MCPA** (i.e. that have no legal protection).

(j) **Nature of threats to habitats/species** – see table 1.

(k) **Name and contact details** of person(s) providing the above information and date on which this was done.

3. These data categories are a core set, which would provide the key information needed to evaluate progress, and success. They consist of sufficiently few categories to make data collection rapid, easy and hopefully achievable. They would not only underpin the actions of the Convention in the marine and coastal environments but are also considered to be of value to the wider conservation community at global, regional and national levels.

4. The collection of information on habitats being protected and managed would need to be structured from a standard list. This would speed up and standardize data collection. This would need to consist of no more than 15 categories and would need to take a very high level approach. Such an approach needs to be developed but could use terms such as “coral, sea grass, mangrove, estuary, seamounts, etc.”. A similar approach would need to be taken over high-level categories to collect information on threats. Some first thoughts on such categories are provided in table 1. In both cases, a decision at the time of data collection would need to be made on which categories were relevant. Whilst this may cause difficulty on occasions, ‘fitting’ a site into this proposed management framework, any errors would be insignificant at the network, regional and global scales.

5. Data in other fields currently held within the world database on protected area of proven value to a wider audience, such as the IUCN management categories and GIS boundary data, could also be gathered but are not considered to be as important. IUCN category information will be collected for all sites on the United Nations list and so could be integrated into the above ‘global’ categories.

6. It is also important, in the context of the Convention on Biological Diversity, that additional contextual information be gathered for each signatory country on the nature of their marine and coastal environments. This would provide benchmarks against which data return would be analysed, progress tracked and future Convention policy determined. This information should include:

(a) *Total area of seas under country jurisdiction in km²* in accordance with the United Nations Convention on the Law of the Sea, and the criteria against which this measurement was made (e.g. high water to seaward limit of jurisdiction, low water to seaward limit); and

(b) *Habitat and species inventories.* In order to assess whether adequate action is being taken, habitat and species inventories to establish global extent and distribution will be required.

7. The former would enable coverage of the marine and coastal protected area network being established under the Convention on Biological Diversity at local, regional and global scales to be tracked, whilst the latter would provide a reference point against which to set future priorities for action under the Convention to address deficiencies. Both are essential for assessing achievement of the proposed global goal.

8. UNEP-WCMC and the IUCN World Commission on Protected Areas (WCPA), working in collaboration with UNEP regional seas offices and other relevant bodies, provide a vehicle by which such a consolidation and updating of global data on MCPAs could be achieved. The United States National Oceanographic and Atmospheric Administration currently chairs the WCPA marine programme, and is interested in using its resources and experience of marine and coastal issues to help develop the information base for making decisions on MCPAs.

9. The advent of Internet-based tools will greatly ease data-gathering and increase the accessibility of the information and its analysis to advise on local, regional and global progress and trends. Internet-based initiatives, and the predominate use of drop-down menus when gathering data from managers and practitioners, will also reduce data entry time and provide major advantages for the consistency and coherency, and ultimately reliability, of the dataset that needs to be gathered.

Table 1.

*Examples of six possible high-level categories that could be used globally to structure collection of information on the nature of the principal threats to habitats/species within MCPAs**

High level category	Sub-categories
Physical loss	<ul style="list-style-type: none"> • Removal (e.g. harvesting, draining to create dry land) • Smothering (e.g. by artificial structures, disposal of dredge spoil)
Physical damage	<ul style="list-style-type: none"> • Siltation (e.g. run-off, dredging, outfalls) • Abrasion (e.g. boating, anchoring, trampling) • Selective extraction (e.g. aggregate dredging, entanglement, turf cutting)
Non-physical disturbance	<ul style="list-style-type: none"> • Noise (e.g. boat activity) • Visual (e.g. recreational activity)
Toxic contamination	<ul style="list-style-type: none"> • Introduction of synthetic compounds (e.g. pesticides, antifoulants, PCBs) • Introduction of non-synthetic compounds (e.g. heavy metals, hydrocarbons) • Introduction of radio nuclides
Non-toxic contamination	<ul style="list-style-type: none"> • Nutrient enrichment (e.g. agricultural run-off, outfalls) • Organic enrichment (e.g. mariculture, outfalls) • Changes in thermal regime (e.g. outfalls, power stations) • Changes in turbidity (e.g. run-off, dredging) • Changes in salinity (e.g. water abstraction, outfalls)
Biological disturbance	<ul style="list-style-type: none"> • Introduction of microbial pathogens • Introduction of non-native species and translocations • Selective extraction of species (e.g. bait collection, wildfowling, commercial & recreational fishing)

Note: one MCPA could qualify for a number of high-level categories.

Annex IV

ELEMENTS OF A MARINE AND COASTAL BIODIVERSITY MANAGEMENT FRAMEWORK

A. Purpose of the framework

1. The overall marine and coastal biodiversity management framework should fulfil the three objectives of the Convention, namely the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits, arising out of the utilization of genetic resources.
2. The framework would play an insurance/precautionary role to help halt losses in biodiversity and encourage recovery, notwithstanding our imperfect knowledge of the marine environment.
3. The framework should address all elements of biodiversity, as reflected in Annex I to the Convention, including the genetic, species and ecosystem levels.

4. Marine ecosystems include both benthic and pelagic elements. Most species have a mobile stage in their life cycle. As a consequence, marine systems are considered open and dispersing larvae can link distant marine, coastal and inland water habitats. This means that connectivity issues are significant in designing a marine biodiversity management framework, and one MCPA will not be able to protect all the biodiversity within the area. A network approach is therefore essential. The network should be at an appropriate scale, which may in some cases require a regional approach. That regional approach should address proportionality issues on a regional rather than a national scale, for example when one or a handful of countries possess most or all of a particular habitat type or the world population of a particular species.

B. Elements of the framework

5. An effective marine and coastal biodiversity management framework would comprise sustainable management practices and actions to protect biodiversity over the wider marine and coastal environment, including an integrated MCPA network consisting of:

(a) Representative areas where extractive uses are excluded, and other significant human pressures are removed or minimized, to enable the integrity, structure and functioning of ecosystems to be maintained or recovered; and

(b) Other marine and coastal protected areas which may complement the biodiversity objectives of the areas referred to in subparagraph (a) above, where threats are managed for the purpose of biodiversity conservation and/or sustainable use and thus where extractive uses may be allowed.

6. The balance between category (a) and (b) MCPAs in the previous paragraph would be selected by the country and when selecting an appropriate balance the country should take into account the advice of the AHTEG that certain objectives such as scientific reference areas can only be achieved through the establishment of category (a) MCPAs.

7. This framework should take into account national requirements with respect to the interests of indigenous and local communities, such as spiritual and cultural practices and socio-economic interests and, as appropriate, opportunities for the participation of indigenous and local communities in the establishment and management of MCPAs as well as opportunities to protect and promote the use of their knowledge, innovations and practices.

C. Representative areas from which extraction is excluded

8. Such representative areas would be managed to maintain their integrity, structure, functioning, resilience and persistence, or to take restorative or rehabilitative steps for biodiversity. They would encompass a full range of marine and coastal ecosystems (including those that are also unique or special), and be protected from human impacts and the effects of alien species. The key purpose of these areas would be to provide for intrinsic values, to allow us to better understand the marine and coastal environment by acting as scientific reference areas, to contribute towards marine environmental recovery, and to act as insurance against failures in our management. But they will also contribute to other objectives, including socio-economic well-being, sustainable use of fisheries in adjacent areas, and public enjoyment.

9. They should represent all ecosystems and contain examples of all marine biodiversity. They should contain sufficient area and replicates to ensure that they can fulfil their objectives and be ecologically viable over time. The AHTEG was unable to identify any simple formula for identifying whether such areas are representative, as this will depend on local circumstances (e.g., variability in

habitats). Nevertheless, experience in terrestrial protected area work, the work on MCPAs to date, and the literature all indicate that the ‘representative’ concept will not be provided by a few small MCPAs.

10. Protection from human impacts would mean that any removal of indigenous biota would be prevented except to the extent necessary to allow essential scientific research and education (i.e., these would be no-take reserves), but also that other practices which significantly impact on biodiversity (e.g. substrate alteration, changes in sediment movements, pollution, visitor disturbance of sensitive species) would be prevented or minimized.

11. These MCPAs would be permanent. They would need to be viable, in the face of changing threats and long-term environmental change (e.g. climate change). Viability might depend on matters such as the nature of the legal protection, the presence of replicates, the design of the individual MCPAs, and the connectivity between MCPAs (directly or using other MCPAs as stepping stones).

12. Although public access may be encouraged in order to generate educational and enjoyment benefits, these benefits would be treated as secondary to the primary purposes listed above. Public access may need to be controlled to prevent unacceptable impacts.

13. Areas would need to be geographically dispersed across biogeographic regions and would need to be ecosystem-based, rather than focus on single species.

D. MCPAs where extractive uses are permitted

14. MCPAs where extractive uses are permitted would contain areas that are subject to site-specific controls that have an explicit biodiversity objective or recognized biodiversity effect. Those controls may also have other objectives (e.g., economic or social objectives). In many countries these may comprise the majority of areas within MCPA networks and deliver most biodiversity benefits. Examples of such controls include controls on fishing methods (e.g., restricting bottom trawling), controls on the removal of certain species (e.g., habitat forming species), rotational closures, and controls on pollution and sedimentation.

15. Amongst the roles for these areas may be to maintain connectivity across the overall network, protect life cycle stages (e.g. as a result of spawning behaviour), and buffer the representative areas where extractive uses have been excluded.

E. Sustainable management of the wider environment

16. The MCPA network would be sitting within a framework of sustainable management practices over the wider marine and coastal environment.

17. Sustainable management practices over the wider marine and coastal environment could include general restrictions that would apply to the entire area (e.g., bans on certain destructive fishing methods), and site-specific restrictions imposed for non-biodiversity purposes (e.g., trawling restrictions to protect cables, restricted areas for defence purposes). These practices can contribute to biodiversity protection in a number of ways, including:

(a) The management of more widespread issues that pose a threat to the effectiveness of individual MCPAs, and ultimately, the aim of regional networks. These threats usually arise from land-based sources, and include issues such as water quality, sedimentation and shipping/transport;

(b) Providing direct benefits to biodiversity (e.g. restrictions on trawling to prevent cable damage can also protect sensitive biodiversity such as corals and sponges);

(c) Protecting wide-ranging marine and coastal biodiversity species which are difficult to address through site-specific measures (e.g. restrictions on fishing practices that cause a by-catch of species such as albatross, marine mammals and turtles); and

(d) Reducing impacts on the connections between MCPAs, e.g., by allowing the movement of larvae between MCPAs.

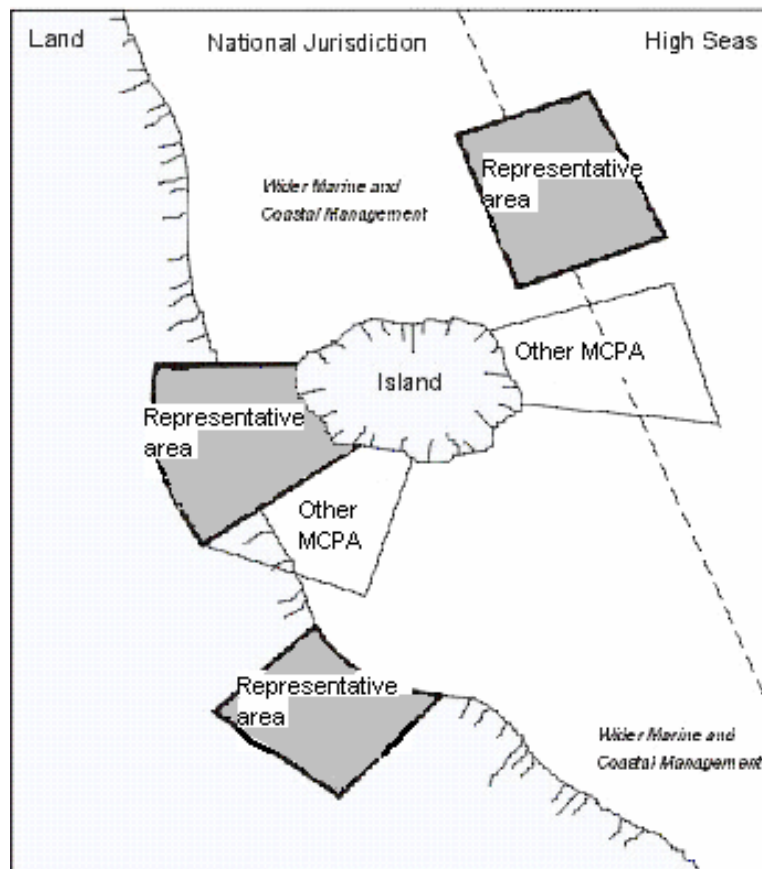
F. International support for creation and management of MCPA networks

18. The AHTEG identified a large number of impediments to the creation and management of MCPAs at the national level. There are a number of ways in which the international community can help to overcome these impediments. In particular, it can:

(a) Provide active financial, technical and other support for MCPA work; and

(b) Help to identify and remove both the barriers to the creation of MCPAs, and perverse incentives for unsustainable activities in the marine and coastal environment.

**ELEMENTS OF THE MARINE AND COASTAL
BIODIVERSITY MANAGEMENT FRAMEWORK**



C. *Mariculture*

The Subsidiary Body on Scientific, Technical and Technological Advice *recommends* that the Conference of the Parties:

1. *Welcomes* the summary report of the Ad Hoc Technical Expert Group on Mariculture (UNEP/CBD/SBSTTA/8/9/Add.2) and the full report of the Group as presented as an information document (UNEP/CBD/SBSTTA/8/INF/6);

2. *Expresses its appreciation* to the Food and Agriculture Organization of the United Nations (FAO) for the technical support and meeting facilities provided for the meeting of the ad hoc technical expert group on mariculture;

3. *Takes note* of the negative biodiversity effects of mariculture, as described in section II of the summary report of the Ad Hoc Technical Expert Group on Mariculture, and of the methods and techniques available for their mitigation, as described in section III of that summary report;

4. *Notes also* that mariculture may have some positive effects on biodiversity, as described in section IV of the summary report;

5. *Urges* Parties and other Governments to adopt the use of relevant methods and techniques for avoiding the adverse effects of mariculture on marine and coastal biological diversity, and incorporate them into their national biodiversity strategies and action plans;

6. *Recognizes* the complexity of mariculture activities, the highly variable circumstances of different geographical areas, mariculture practices and cultured species, as well as social, cultural and economic conditions, which will influence mitigation options, and, accordingly, taking into account the special needs of and the difficulties faced by stakeholders in developing countries, recommends that Parties and other Governments adopt the use of the following specific methods, techniques or practices for avoiding the adverse biodiversity-related effects of mariculture:

(a) The application of environmental impact assessments, or similar assessment and monitoring procedures, for mariculture developments, with due consideration paid to the scale and nature of the operation, as well as carrying capacities of the ecosystem, taking into account the guidelines on the integration of biodiversity considerations in environmental impact assessment legislation and/or processes and in strategic impact assessment, endorsed by the Conference of the Parties in its decision VI/7 A, as well as the recommendations endorsed in decision VI/10, annex II, on the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities. There is a need to address the likely immediate, intermediate and long-term impacts on all levels of biodiversity;

(b) Development of effective site-selection methods, in the framework of integrated marine and coastal area management, taking into account the special needs and difficulties encountered by stakeholders in developing countries;

(c) Development of effective methods for effluent and waste control;

(d) Development of appropriate genetic resource management plans at the hatchery level and in the breeding areas, including cryo-preservation techniques, aimed at biodiversity conservation;

(e) Development of controlled low-cost hatchery and genetically sound reproduction methods, made available for widespread use, in order to avoid seed collection from nature, where appropriate. In cases where seed collection from nature cannot be avoided, environmentally sound practices for spat collecting operations should be employed;

(f) Use of selective fishing gear in order to avoid/minimize by-catch in cases where seed are collected from nature;

(g) Use of local species and subspecies in mariculture, noting that use of non-indigenous species may be appropriate in some circumstances;

(h) Implementation of effective measures to prevent the inadvertent release of mariculture species and fertile polyploids, including, in the framework of the Cartagena Protocol on Biosafety, living modified organisms (LMOs);

(i) Use of proper methods of breeding and proper places of releasing in order to protect genetic diversity;

(j) Minimizing the use of antibiotics through better husbandry techniques;

(k) Ensure that fish stocks used for fish meal and fish oil are managed in such a way as to be sustainable and to maintain the trophic web;

(l) Use selective methods in industrial fisheries to avoid/minimize by-catch.

(m) Considering traditional knowledge, where applicable as a source to develop sustainable mariculture techniques;

7. *Urges* Parties and other Governments to adopt best management practices and legal and institutional arrangements for sustainable mariculture, taking into account the special needs and difficulties encountered by stakeholders in developing countries, in particular through implementing Article 9 of Code of Conduct on Responsible Fisheries, as well as other provisions in the Code dealing with aquaculture, recognizing that it provides necessary guidance to develop legislative and policy frameworks at the national, regional and international levels;

8. *Requests* the Executive Secretary to undertake a comprehensive review of relevant documents on best practices relevant to mariculture, and to disseminate the results, as well as relevant case studies, through the clearing-house mechanism prior to the tenth meeting of the Subsidiary Body;

9. *Approves* the research and monitoring priorities identified by the Ad Hoc Technical Expert Group on Mariculture as outlined in the annex to the present decision, and *recommends* their implementation as part of the programme of work on marine and coastal biological diversity;

10. *Recommends* that the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations and other relevant organizations, explore ways and means for implementing these research and monitoring priorities, including an evaluation of means through which mariculture can be used to restore or maintain biodiversity;

11. *Recommends* that the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations and other relevant organizations, harmonize the use of terms in regards to mariculture by further developing and adopting the glossary of the Food and Agriculture Organization of the United Nations;

12. *Expresses its support* for regional and international collaboration to address transboundary impacts of mariculture on biodiversity, such as spread of disease and invasive alien species;

13. *Decides to promote* technical exchange and training programmes, and transfer of tools and technology;

14. *Decides* to examine the need for support through the financial mechanism to developing country Parties for country-driven activities aimed at enhancing capabilities to mitigate the adverse effects of mariculture on biological diversity.

Annex

RECOMMENDATIONS FOR FUTURE RESEARCH AND MONITORING PROJECTS

The Expert Group recognizes that at the present time there is insufficient information available about the effects of mariculture on biodiversity and its mitigation. Therefore, additional efforts, including through the use of the knowledge, innovations and practices of indigenous and local communities as appropriate, should be developed in the following areas:

(a) *General research needs:*

- (i) Development of research programmes to support establishment of efficient monitoring programmes to monitor impacts of mariculture on marine and coastal biological diversity;
- (ii) Development of criteria for judging the seriousness of biodiversity effects of mariculture;
- (iii) Subsequent establishment of monitoring programmes to detect biodiversity effects of mariculture;
- (iv) Research on the impact of escaped mariculture species on biodiversity;
- (v) Development of criteria for when environmental impact assessments are required, and for the application of environmental impact assessments at all levels of biodiversity in the context of the guidelines endorsed by the Conference of the Parties in decision VI/7 A (genes, species, ecosystems), and the recommendations endorsed in decision VI/10, annex II;
- (vi) Noting that the FAO glossary of terms is skewed towards marine capture fisheries, expansion of this glossary with regard to its terminology related to aquaculture;
- (vii) Reinforcement of global assessments of marine and coastal biological diversity;

- (b) *Research related to impacts of mariculture on genetic diversity:*
- (i) Development of genetic resource management plans for broodstock;
 - (ii) Research aimed at understanding genetic effects of biotechnology developments in aquaculture;
 - (iii) Research aimed at understanding genetic structure of both the farmed and wild populations, including:
 - Effects of genetic pollution from farmed populations on wild populations;
 - Maintenance of genetic viability of farmed populations;
 - Studies of (genetics of) wild populations as potential new candidates for mariculture;
- (c) *Research related to impacts of mariculture on species diversity:*
- (i) Support for basic global-scale taxonomic studies, possibly in conjunction with the Global Taxonomy Initiative (GTI);
 - (ii) Support for studies aimed at development of responsible aquaculture using native species;
 - (iii) Development of methods and techniques for limiting by-catch of seed collection;
- (d) *Research related to impacts of mariculture on ecosystem diversity:*
- (i) Research on carrying capacity and carrying capacity models for planning aquaculture, especially stocking rates;
 - (ii) Comprehensive studies to quantitatively and qualitatively assess effects of mariculture on biodiversity for various aquatic ecosystems, selected by their sensitiveness degree;
 - (iii) Research on the competitive nature imposed on marine fisheries by capture and culture fisheries;
 - (iv) Studies aimed at improved understanding of the effects of inputs, such as chemicals, hormones, antibiotics and feeds on biodiversity;
 - (v) Research on the impact of diseases in cultured and wild species on biodiversity;
- (e) *Research related to socio-economics, culture, policy and legislation:*
- (i) Comparative studies on legislation, economic and financial mechanisms for regulating mariculture activity;
 - (ii) Development of quantitative and qualitative criteria to assess mariculture impacts on the environment, including cultural and social impacts, as outlined in the recommendations of decision VI/10, annex II;
- (f) *Monitoring programmes:*
- (i) Support for mariculture-related disease monitoring programmes at the global level;

- (ii) Support for the transfer of biotechnological diagnostic tools for wide use;
- (iii) Update of taxonomic database including genetic diversity at the intra-specific level.

D. Conservation and sustainable use of deep seabed genetic resources beyond national jurisdiction: study of the relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling paragraph 12 of decision II/10 of the Conference of the Parties,

Taking note of the study on the relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea with regard to the conservation and sustainable use of genetic resources of the deep seabed (UNEP/CBD/SBSTTA/8/INF.3/Rev.1),

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

(a) Request the Executive Secretary, in consultation with Parties and other Governments and in collaboration with relevant international organizations, such as the United Nations Division for Ocean Affairs and the Law of the Sea, the United Nations Environment Programme, the International Seabed Authority and the Intergovernmental Oceanographic Commission of the United Nations Educational, Cultural and Scientific Organization to compile and synthesize information on the status and trends of deep sea bed genetic resources and on methods to identify, assess and monitor genetic resources of the deep seabed in areas beyond the limits of national jurisdiction, including identification of threats to such genetic resources and the means for their protection, with a view to addressing processes and activities under Article 4(b) of the Convention and to report on progress thereon to the Subsidiary Body on Scientific, Technical and Technological Advice, which will prepare recommendations for the consideration of the Conference of the Parties at its eighth meeting;

(b) Invite the United Nations General Assembly to call upon relevant international organizations such as the United Nations Environment Programme, the International Maritime Organization, the International Seabed Authority, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the International Hydrographic Organization, the World Meteorological Organization, the Secretariat of the Convention on Biological Diversity, and the United Nations Division for Ocean Affairs and the Law of the Sea, to review issues relating to the conservation and sustainable use of genetic resources of the deep seabed beyond the limits of national jurisdiction and make appropriate recommendations to the General Assembly regarding appropriate actions;

(c) Invite Parties and other States to identify activities and processes under their jurisdiction or control which may have significant adverse impact on deep seabed ecosystems and species beyond the limits of national jurisdiction, in order to comply with Article 3 of the Convention.

VIII/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 and decision VI/4*

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Invites* the Food and Agriculture Organization of the United Nations, as the executing agency of the Global Land Degradation Assessment of Drylands and the Millennium Ecosystem Assessment to consider integrating, in the context of their respective mandates, the needs for information on status and trends of dry and sub-humid land biodiversity, and ways to strengthen national efforts to conduct assessments, and to report on this matter to the seventh meeting of the Conference of the Parties.

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

(a) *Adopts* the proposed process for the periodic assessment of the status and trends of biological diversity in dry and sub-humid lands, as described in table 1 below, taking into account national laws, policies and programmes and recognizing the urgency for action in those countries severely affected by land degradation, focusing on strengthening the capacities of developing countries and countries with economies in transition to conduct assessments at the national level and build on the knowledge and structures of ongoing global assessments, as well as national assessments;

(b) *Adopts* the proposal prepared by the Executive Secretary for the further refinement of the programme of work and suggesting collaborating partners as indicated in the annex to the present recommendation;

(c) *Requests* the Executive Secretary to ensure that the parts of the programme of work relating to other thematic programmes of work of the Convention are taken into account when developing and reviewing these programmes of work;

(d) *Requests* the Executive Secretary, in consultation with Parties, to develop targets for the implementation of the programme of work, taking into account especially national action programmes to combat desertification (NAPs), the Global Strategy for Plant Conservation, the Global Taxonomy Initiative, the Strategic Plan of the Convention, as well as the Plan of Implementation of the World Summit on Sustainable Development, for consideration by Subsidiary Body on Scientific, Technical and Technological Advice. Such a process could follow the approach taken in the development of the Global Strategy for Plant Conservation (decision VI/9, annex);

(e) *Requests* the Executive Secretary, in collaboration with the Secretariats of the other Rio Conventions and other biodiversity-related conventions, to further develop mechanisms for facilitating the synergistic implementation of these conventions, especially at the national level, as described in sections III and IV of the note by the Executive Secretary on dry and sub-humid lands prepared for the eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (UNEP/CBD/SBSTTA/8/10). Such mechanisms could include:

(i) Joint work programmes,

(ii) The activities of the joint liaison group of the three Rio conventions and potential additional members, and

(iii) Joint activities with a focus on several elements:

a. Integration of activities related to national biodiversity strategies and action plans with national action programmes for the Convention to Combat

Desertification, national adaptation programmes of action under the United Nations Framework Convention on Climate Change, Ramsar wetland policies and other relevant programmes, including national strategies for sustainable development and poverty reduction,

- b. Capacity-building, information systems, institutional arrangements and joint planning activities between the coordinating bodies and focal points of the conventions,
- c. Development of criteria for synergy projects and creation of “good practice” synergy projects;
- d. Sound preparation, formulation of objectives, organization and follow-up of national and regional synergy workshops,
- e. Training courses and awareness-raising among relevant stakeholders,
- f. Consultation, decision-making and implementation processes with the full participation of relevant stakeholders, including indigenous peoples and local communities, non-governmental organizations and the private sector. .

This process should take into account existing experience, as documented by, *inter alia*, the Committee for the Review of the Implementation of the Convention to Combat Desertification (CRIC), and the “Operational Guidelines for Expedited Funding of National Self Assessment of Capacity-building Needs” of the Global Environment Facility;

(f) *Further requests* the Executive Secretary, in collaboration with the other Rio and other biodiversity-related conventions, to facilitate the review of the national biodiversity strategies and action plans under the Convention on Biological Diversity, in order to harmonize them with the national action programmes under the Convention to Combat Desertification, with a focus on poverty alleviation and intersectoral integration;

3. *Recognizes* that the effective implementation of this programme of work is subject to the availability of financial, technological and human resources, and urges Parties, countries and international organizations that are in a position to do so, to provide the necessary support.

Table 1. *Proposed process for the periodic assessment of status and trends of biological diversity in dry and sub-humid lands (Phases II-IV will depend on the recommendations made after completion of phase I).*

Phase I: 2002-2004 (COP7)	<ol style="list-style-type: none"> 1. Invite LADA and the Millennium Assessment to investigate how the needs of the dry and sub-humid lands could be integrated into the ongoing assessments, emphasizing proposals and ways to strengthen national efforts to conduct assessments. 2. Develop proposals for mechanisms(s) linking national assessment to regional/global assessment/report processes. 3. Participatory development of draft guidelines for national assessments, including indicators initiated.
Phase II: 2004-2006 (COP8)	<ol style="list-style-type: none"> 4. Agree to final guidelines for national assessments and adoption for implementation. 5. Implementation mechanism agreed upon and functional.
Phase III: 2006-2012	<ol style="list-style-type: none"> 6. Data collection, processing and communication according to agreed guidelines and mechanisms. 7. In 2010, Parties report on WSSD biodiversity-related targets, as appropriate. 8. Global assessment report on status and trends of biological diversity, including information from national assessments.
Phase IV: 10-year periodic assessment reports	<ol style="list-style-type: none"> 9. Periodic ten-year report based on continuous assessments at national level and up-scaling.

Annex

SYNTHESIS TABLE OF EXPECTED OUTCOMES AND TIMEFRAMES, POTENTIAL ACTORS, AND INDICATORS OF PROGRESS IN THE IMPLEMENTATION OF THE PROGRAMME OF WORK

Activity	Expected Outcomes	Time-frame	Key actors§	Status	Progress Indicators	Date
PART A: ASSESSMENTS						
Activity 1. Assessment of status and trends	<ul style="list-style-type: none"> Comprehensive review and assessment report on status and trends of biological diversity in dry and sub-humid lands 	2012	FAO, LADA, MA, Parties, SCBD	Planned	Preliminary assessment Draft full assessment	2006 2010
Activity 2. Areas of particular value and/or under threat	<ul style="list-style-type: none"> Review and assessment of areas of value/under threat 	2012	World Heritage Centre, MAB Secretariat, WCPA, IUCN, WCMC, Parties	Planned	Draft map and assessment report	2008
Activity 3. Indicators	<ul style="list-style-type: none"> Indicators for assessment of status and trends fully operational 	2012	FAO, LADA, MA, Parties, SCBD.	In progress	Draft set of indicators	2004
Activity 4. Knowledge on processes that affect biodiversity	<ul style="list-style-type: none"> Reports and publications on the structure and functioning of dry and sub-humid lands ecosystems, including the potential impact of climate change and poverty on dry and sub-humid lands 	Ongoing	Various research and development institutes, including local knowledge systems, Parties	Ongoing	Draft summary publication AHTEG on biodiversity and climate change	2006 2003
Activity 5. Benefits derived from the biological diversity	<ul style="list-style-type: none"> Compilation of information on local and global benefits 	2012	Various research and development institutes, including local knowledge systems, Parties. Parties, various research and development institutes, including local knowledge systems Parties, collaborating partners, SCBD	In progress	AHTEG on dry and sub-humid lands Draft publication	2002 2006
	<ul style="list-style-type: none"> Assessment of the socio-economic impact of biodiversity loss and linkage to poverty 	2006		In progress	AHTEG on dry and sub-humid lands Draft report	2002 2005
	<ul style="list-style-type: none"> Case-studies on inter-linkages between biodiversity loss and poverty 	2006		Planned	Submission of case-studies from Parties	2005
Activity 6. Best management practices	<ul style="list-style-type: none"> Case-studies including consideration of traditional knowledge 	2006	Parties, collaborating partners, SCBD SCBD, Parties	Planned	Submission of case-studies from Parties Draft guidelines	2005 2003
	<ul style="list-style-type: none"> Guidelines for assessment of good practices Case-studies of applied Ecosystem Management Approach 	2004		Planned		

Activity	Expected Outcomes	Time-frame	Key actors§	Status	Progress Indicators	Date
PART B: TARGETED ACTIONS						
Activity 7. Measures for conservation and sustainable use						
(a) Protected areas	<ul style="list-style-type: none"> Guidelines on establishment of “adequate and effective protected areas networks” Additional protected area established 	2008 Ongoing	WCPA, Environmental conventions, IUCN, World Heritage, MAB Sec. Parties	In process Ongoing	Protected areas report	2012
(b) Rehabilitation and/or restoration	<ul style="list-style-type: none"> Report and database on appropriate technologies and transfer mechanisms Evaluation of effectiveness of measures at test sites Measures implemented through NBSAPs and NAPs 	2002 Ongoing	Norway, SCBD, Parties and various collaborating partner Parties Parties	Ongoing Proposed ^{1/} Proposed	Workshop on transfer of technologies Sites established; exchange visits between affected countries Explicit rehabilitation Project implemented worldwide	2003 2008 2008
(c) Invasive alien species	<ul style="list-style-type: none"> Increased information and information exchange on invasive alien species Guidelines and mechanisms for best management; integration through NBSAPs 	Ongoing 2008	Parties, supported by GISP Parties, GISP	In progress In progress	Workshops, CHM includes explicit information Draft guidelines	2008 2006
(d) Production systems	<ul style="list-style-type: none"> Operational guidelines on sustainable use, good farming practices, integrated production system and drought preparedness Progress report on development of incentives, including “fair and equitable” markets 	2004 2004	Parties, FAO, CGIAR centres, WB, various research institutes Parties	In progress Proposed	Draft guidelines Draft resource paper; 3 rd National Reports	2003 2006
(e) Water resources	<ul style="list-style-type: none"> Guidelines on management and sustainable use of water resources implemented Case-studies on best practices available 		Parties, Ramsar and other environmental conventions, GIWA, research institutes Parties	Proposed Proposed	Guidelines drafted Submission of case-studies by Parties	2008 2007
(f) <i>In situ</i> and <i>ex situ</i> conservation	<ul style="list-style-type: none"> Guidelines for <i>in situ</i> and <i>ex situ</i> conservation and management needs based on best practices implemented Capacities of zoos and seedbanks and other institutions for <i>ex situ</i> conservation strengthened 		WCPA, IUCN, WWF, CGIAR centres, Parties Parties, regional centres	Proposed Proposed	Draft guidelines Integration into NBSAP and NAP	2006 2008

** As listed in the report of the Ad Hoc Technical Expert Group on Biodiversity of Dry and Sub-Humid Lands (UNEP/CBD/SBSTTA/8/INF/2) and updated based on a questionnaire sent out in August 2002.

Activity	Expected Outcomes	Time-frame	Key actors§	Status	Progress Indicators	Date
(g) Economic valuation and adaptive technologies	<ul style="list-style-type: none"> Study on economic valuation of goods and services in areas of specific value for biodiversity Guidelines for the use of economic instruments implemented through NBSAP 		Parties, WB, various research and development institutes	Proposed	Draft report by AHTEG	2002
			Parties, various research and development institutes	Proposed	Draft guidelines	2006
(h) Plant and animal biomass	<ul style="list-style-type: none"> Case studies on best practices Incorporation of lessons learnt in NBSAPs and NAPs 		Parties, various collaborating partners	Proposed		
			Parties	Proposed		
(i) Training, education and public awareness	<ul style="list-style-type: none"> Training programmes nationally and regionally in place Public awareness campaigns on the importance of dry and sub-humid lands biodiversity 		Parties, regional centres of excellence, TPN of UNCCD, GM	Proposed	Training workshops per year per region	2006
			Parties, CBD, UNCCD	Proposed	Year of biodiversity in dry and sub-humid lands	
(j) Information on sustainable use	<ul style="list-style-type: none"> Development of information exchange mechanisms 		Parties, sub-regional organizations, TPNs	Planned, ongoing	TPNs discuss 2 themes relevant to PoW per year	2008
(k) Promotion of research and development programmes	<ul style="list-style-type: none"> Research priorities established Pilot projects developed and implemented on local level 		Parties, research and development institutes	Planned, ongoing	Partnerships for collaborative research	2006
			Parties	Planned, ongoing	Demonstration sites per region per year	
(l) Integrated catchment management and endangered species	<ul style="list-style-type: none"> Case-studies on (i) integrated catchment management, (ii) migratory species corridors, (iii) conservation of rare and endangered species 		Parties	Proposed	Case-studies per region documented	2006
(m) Cooperation with relevant conventions	<ul style="list-style-type: none"> Memoranda of Cooperation (MoC) with relevant conventions Joint work programme with relevant conventions 		Various conventions	In progress		
			Various conventions	In progress	Synergy workshops Pilot synergy projects	
Activity 8. Promotion of responsible resource management						
(a) Local institutional structures; and indigenous and local techniques	<ul style="list-style-type: none"> Case-studies in place and success stories documented and shared Broad implementation through NBSAPs and NAPs 		Parties	Proposed	Regional level exchange	2006
			Parties, GM	Proposed	Visit programmes in place	
(b) Decentralization of management	<ul style="list-style-type: none"> Case-studies and success stories of community-based management of resources Case studies on the effect of users' access to land and water resources 		Parties	Proposed	Publication of case-study; exchange visits to sites	2006
(c) Institutions for land tenure and conflict resolution	<ul style="list-style-type: none"> Case-studies and success stories of strengthened national organization structures 		Parties	Proposed	Workshops demonstrating case examples	2008

Activity	Expected Outcomes	Time-frame	Key actors§	Status	Progress Indicators	Date
(d) Transboundary issues	<ul style="list-style-type: none"> Guidelines on transboundary collaboration implemented through NBSAPs and NAPs Increased number of bilateral and subregional collaborative arrangements in place 		Parties, WCPA, IGOs Parties	Proposed Ongoing	Draft guidelines	2008
(e) Policies and instruments	<ul style="list-style-type: none"> Mechanisms for collaboration between respective national focal points developed Case-studies, guidelines for cross-sectoral integration, integration of NBSAPs and NAPs 		Parties, SCBD, UNCCD, GM Parties	In process In process	Synergy workshops held per annum Presentation of first case-studies (UNCCD CRIC 1)	2004 2002
Activity 9. Support for sustainable livelihoods						
(a) Income diversification	<ul style="list-style-type: none"> Case-studies on income diversification Guidelines for income diversification opportunities implemented through NBSAP and NAPs 		Parties Parties	Proposed Proposed	Initial case-studies reported on Draft guidelines	2006 2008
(b) Sustainable harvesting	<ul style="list-style-type: none"> Guidelines on best practices incorporated in NBSAPs, NAPs and other relevant policies 		Parties	Proposed	Draft guidelines	2004
(c) Innovations for local income generation	<ul style="list-style-type: none"> Relevant case-studies made available 		Parties	Proposed	Workshops and exchange visits	2006
(d) Market development	<ul style="list-style-type: none"> Products derived from sustainable use increasingly marketed Conducive market relationships developed 		Parties, WHO Parties, WHO	Proposed Proposed	Initial case-studies reported on	2006
(e) Fair and equitable sharing of the benefits	<ul style="list-style-type: none"> Guidelines produced and integrated in NBSAPs, NAPs and other relevant policies 		Parties, SCBD	Proposed	Draft guidelines	2006

Indicative list of potential collaborators** and abbreviations

CBD=Convention on Biological Diversity; CCD=Convention to Combat Desertification; CGIAR=Consultative Group on International Agricultural Research; CIAT=International Centre for Tropical Agriculture; CIFOR=Centre for International Forestry Research; CILSS=Permanent Inter-State Committee for Drought Control in the Sahel; CITES=Convention on International Trade in Endangered Species of Wild Fauna and Flora; CMS = Convention on the Conservation of Migratory Species of Wild Animals; CPF=Collaborative Partnership on Forests; FAO=Food and Agriculture Organization of the United Nations; GEF=Global Environment Facility; GISP=Global Invasive Species Project; GIWA=Global International Waters Assessment, GM=Global Mechanisms of the UNCCD, ICARDA=International Centre for Agricultural Research in the Dry Areas; ICRAF=International Centre for Research in Agroforestry; ICRISAT=International Crops Research Institute for the Semi-arid Tropics; IFAD=International Fund for Agricultural Development; IGBP=International Geosphere and Biosphere Programme; ITTA=International Institute for Tropical Agriculture; ILRI=International Livestock Research Institute; ILTER=International Long-term Ecological Research Network, IPGRI=International Plant Genetic Resources Institute; IPPC=Integrated Pollution and Prevention Control; IGO=Intergovernmental organization; IUCN=World Conservation Union; IUFRO=International Union of Forestry Research Organizations; LUCC=Land Use and Cover Change Programme (of IGBP); MA=Millennium Ecosystem Assessment; OIE=World Organization for Animal Health; OSS=Observatoire du Sahara et du Sahel; SADC=Southern African Development Community; TPN=Thematic Programme Networks of the CCD; UNDP=United Nations Development Programme; UNEP=United Nations Environment Programme; UNEP-WCMC=World Conservation Monitoring Centre; UNESCO=United Nations Educational, Scientific and Cultural Organization; UNESCO-MAB=Man and Biosphere Project; UNFCCC=United Nations Framework Convention on Climate Change; UNFF=United Nations Forum on Forests; UNITAR=UN Institute for Training and Research; WB=World Bank; WCPA=World Commission on Protected Areas; WHC=World Heritage Centre (UNESCO); WIPO=World

Intellectual Property Organization; WMO=World Meteorological Organization; WRI=World Resource Institute; WTO=World Trade Organization; WWF=World Wide Fund for Nature

VIII/5. *Biological diversity and tourism: draft guidelines for activities related to sustainable tourism development and biological diversity and case-studies on the implementation of the guidelines*

The Subsidiary Body on Scientific, Technical and Technological Advice, *having endorsed* the revised guidelines contained in the annex to the present recommendation, *recommends* that the Conference of the Parties:

1. *Adopts* the Guidelines on Biodiversity and Tourism Development annexed to the present note;

2. *Recognizing* that sustainable tourism can provide significant benefits to biodiversity conservation, *notes* that the Guidelines are voluntary and represent a range of opportunities for local, regional, national governments, indigenous and local communities and other stakeholders to manage tourism activities in an ecological, economic and socially sustainable manner;

3. *Recognizing* that these international guidelines have a broad application and audience, *request* the Executive Secretary, in order to increase clarity and facilitate the detailed understanding of the guidelines and the implementation by Parties and to identify and address specific stakeholders, to:

(a) Develop a user's manual, checklists and on the basis of experience gained produce and make available a streamlined and user-friendly core set of voluntary guidelines;

(b) Prepare a glossary and definitions of terms used in the Guidelines;

(c) Promote the use of the clearing-house mechanism to collect and disseminate information on:

(i) Specific case-studies on the implementation of the Guidelines that make clearer reference to the use and application of specific analytical management tools; and

(ii) Best practices, lessons learned and case-studies on the involvement of indigenous and local communities embodying traditional lifestyles in sustainable-tourism and ecotourism activities and projects;

4. *Invites* Parties, the Governments and relevant organizations to implement pilot projects, also through public-private partnerships as outlined in the World Summit on Sustainable Development, to test the applicability of the Guidelines, understand their practical implications and provide feedback on their effectiveness (e.g. through the clearing-house mechanism);

5. *Encourages* Parties, Governments and relevant organizations to establish monitoring and reporting systems based on relevant indicators to assess the applicability and status of implementation of the Guidelines;

6. *Invites* Parties, Governments and relevant organizations to provide indigenous and local communities with capacity-building and financial resources to ensure their active participation in all the stages of the policy-making, development planning, product development and management indicated by the Guidelines and *invites* non-governmental organizations to continue and increase their involvement in fostering effective policy-making for sustainable tourism development;

7. In light of the collaboration between the Convention on Biological Diversity, the United Nations Environment Programme and the United Nations Educational, Scientific and Cultural Organization, *invites* the World Tourism Organization, the United Nations Conference on Trade and

Development, the United Nations Development Programme, the World Bank, World Trade Organization, regional development banks and other relevant international organizations, to:

- (a) Take these Guidelines into account in undertaking their activities;
- (b) Provide technical and financial assistance in the implementation of the Guidelines and pay due regard to the Guidelines when preparing, approving and funding tourism development projects having potential implications on biological diversity, as also recommended in the report of the Workshop on Tourism and Biodiversity, held in Santo Domingo in June 2001. To this end, recommends that the Conference of the Parties forward the endorsed guidelines to financing agencies, regional development banks and developers;

8. *Invites* all Governments to integrate these Guidelines in the development or review of their strategies and plans for tourism development, national biodiversity strategies and action plans, and other related sectoral strategies, at appropriate levels in consultation with interested stakeholders including tourism operators;

9. *Calls for* additional efforts to increase awareness and training on the Guidelines and their applicability among the tourism sector and other stakeholders.

Annex

(DRAFT) GUIDELINES ON BIODIVERSITY AND TOURISM DEVELOPMENT

(Draft) international 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

A. Scope

1. The Guidelines are voluntary and represent a range of opportunities for local, regional, national governments, indigenous and local communities and other stakeholders to manage tourism activities in an ecological, economic and socially sustainable manner.

2. The present Guidelines will assist Parties to the Convention on Biological Diversity, public authorities and stakeholders at all levels, to apply the provisions of the Convention to the sustainable development and management of tourism policies, strategies, projects and activities. They will provide technical guidance to policy makers, decision makers and managers with responsibilities covering tourism and/or biodiversity, whether in national or local government, the private sector, indigenous and local communities, ^{8/} non-governmental organizations or other organizations, on a process for working together with key stakeholders involved in tourism and biodiversity.

3. The Guidelines cover all forms and activities of tourism. These activities should be consistent with the principles of conservation and sustainable use of biological diversity. These include, but are not limited to, conventional mass tourism, ecotourism, nature- and culture-based tourism, heritage tourism, cruise tourism, leisure and sports tourism. Although the primary focus of the Guidelines is vulnerable ecosystems and habitats, they are also appropriate for tourism and biological diversity in all geographical locations and tourist destinations. Furthermore the Guidelines recognize the need for collaboration between originating and receiving countries and should be used to address situations of conflict between local interests and national, regional and international policies.

^{8/} For the purposes of the present Guidelines “indigenous and local communities” means “indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity”.

B. *The policy-making, development planning and management process*

4. The main elements considered in developing the Guidelines are:
 - (a) Framework for management of tourism and biodiversity;
 - (b) Notification process in relation to such a management framework;
 - (c) Public education, capacity-building and awareness-raising concerning tourism and biodiversity.

5. Policy-making, development planning and the management process need to be undertaken through a multi-stakeholder process. Governments will normally coordinate this process at national level. This process may also be undertaken at more local levels by local government, and should ensure strong involvement of indigenous and local communities throughout the management and decision-making process. In addition, those responsible for tourism development and activities are encouraged to consult with and involve all relevant stakeholders, and especially those who are or may be affected by such developments and activities. The process applies to both new tourism development and the management of the existing tourism operations.

Institutions

6. In order to ensure coordination between the levels of decision-making in government departments and agencies concerned with management of biological diversity and tourism, inter- and intra-departmental and inter-organizational structures and processes should be established, if they do not already exist, to guide policy development and implementation.

7. There is a need to improve awareness and exchange of knowledge between those responsible for and affected by tourism and nature conservation at a national, subnational and local level. In addition, national biodiversity strategies and action plans should include consideration of tourism issues, and tourism plans should likewise include full consideration of biodiversity issues. Existing documents, strategies and plans should be coherent or revised and amended to that effect as applicable.

8. A consultative process should be established to ensure ongoing and effective dialogue and information-sharing with stakeholders, as well as to resolve conflicts that might arise in relation to tourism and biological diversity and build consensus. To assist in this process, a multi-stakeholder body should be established including government departments, the tourism sector, non-governmental organizations, indigenous and local communities and other stakeholders, to ensure their engagement and full participation in the whole process, and encourage the establishment of partnerships.

9. The institutional arrangements should provide for the comprehensive involvement of stakeholders in the management process described in these Guidelines.

10. Authorities and managers of protected areas have a special role for the management of tourism and biodiversity. To this end, there is a need for government support and resources for managers, including training to perform their role effectively. In addition, it is necessary to establish and review mechanisms and funding policies to ensure the availability of adequate resources for maintaining biodiversity and promoting sustainable tourism. International institutions and development agencies should be involved as appropriate.

11. To be sustainable, tourism development in any destination requires coordinated policy-making, development planning and management. The policy-making, development planning and management process comprises the following steps:

- (a) Baseline information and review;
- (b) Vision and goals;
- (c) Objectives;
- (d) Review of legislation and control measures;
- (e) Impact assessment;
- (f) Impact management and mitigation;
- (g) Decision making;
- (h) Implementation;
- (i) Monitoring and reporting;
- (j) Adaptive management.

1. Baseline information

12. Baseline information is necessary to enable informed decisions to be taken on any issue. A minimum of baseline information is needed to enable impact assessment and decision-making and it is recommended that its compilation follow the ecosystem approach.

13. For tourism and biodiversity, the baseline information should include information, as appropriate, on:

(a) Current economic, social and environmental conditions at national and local level, including current and planned tourism development and activities and their overall positive and negative impacts, as well as development and activities in other sectors;

(b) Structure and trends within the tourism sector, tourism policy and tourism markets and trends, at national, regional and international level, including information based on market research as necessary;

(c) Environmental and biodiversity resources and processes, including any special features and sites of particular importance and protected areas, and identifying those resources that may be off bounds to development due to their particular fragility and those resources identified by existing analysis of threats;

(d) Culturally sensitive areas;

(e) Benefits from, and costs of, tourism to indigenous and local communities;

(f) Information on damage done to the environment in the past;

(g) National biodiversity strategies, action plans and reports and other sectoral plans and policies relevant for tourism development and biodiversity;

(h) National, subnational and local sustainable-development plans.

14. Baseline information should take into consideration all sources of knowledge. The adequacy of the baseline information available will need to be reviewed, and where necessary, further research and information-gathering can be undertaken to fill gaps that may be identified.

15. All stakeholders may contribute relevant information to this process, including indigenous and local communities. To this end, there is a need for capacity-building and training to assist stakeholders in documenting, accessing, analysing and interpreting baseline information.

16. Collation and synthesis of information provided will need to be undertaken by an appropriately qualified team, drawing on a range of expertise, including expertise in tourism and in biodiversity issues, and in traditional knowledge and innovation systems.

17. In order to ensure that all relevant information, its credibility and reliability, are considered, all stakeholders should be involved in review of the collated baseline information available, and in the synthesis of this information.

18. Baseline information should include maps, geographical information systems and other visual tools, including already identified zoning schemes.

19. The baseline information-gathering and review process should make full use of the clearing-house mechanism under the Convention on Biological Diversity, as well as other relevant networks such as the World Network of Biosphere Reserves, World Heritage sites and Ramsar sites.

20. Requirements for site-specific information in relation to proposals for tourism development and activities at particular locations are set out in the notification process, and its compilation should follow the ecosystem approach. To enable impact assessment and decision making, the basic information required includes:

(a) *Site-specific aspects:*

- (i) The various laws and regulations and plans that may be applicable to the specific site, including overviews of:
 - a. Existing laws at local, subnational and national levels;
 - b. Existing uses, customs and traditions;
 - c. Relevant regional and international conventions or agreements and their status, and cross-boundary agreements or memoranda of understanding (MoUs);
- (ii) Identification of various stakeholders involved in or potentially affected by the proposed project - including stakeholders in governmental, non-governmental, and private sectors (particularly those from the tourism sector), and indigenous and local communities - along with details concerning their participation in and/or consultation on the proposed project during its design, planning, construction and operation;

(b) *Ecological aspects:*

- (i) Detailed indication of the protected and biodiversity significant areas;
- (ii) Specifications on the ecosystems, habitats, species;
- (iii) Quantitative and qualitative information on the loss of habitats and species (main reasons, trends);

- (iv) Indexing of species;
 - (v) Identified threats;
 - (vi) Existing zones, ecological zones and existing tourism zones within the ecological zones;
 - (vii) Ecologically sensitive zones and zones where ecological disasters have or will most likely take place;
- (c) *Development aspects:*
- (i) Summary of the proposed project, why and by whom it is proposed, estimated outcomes and possible impacts (including impacts on the surrounding areas and transboundary impacts), and quantitative and qualitative data on these aspects;
 - (ii) Description of the stages of development and the various structures and stakeholders that may be involved at each stage;
 - (iii) Description of current land-uses, infrastructures, tourism facilities and services and their interaction with proposed operations.

2. *Vision and goals*

Vision

21. An overall vision for sustainable tourism development in harmony with the goals and objectives of the Convention on Biological Diversity and other related conventions, such as the World Heritage Convention, is important for the effective management of tourism and biodiversity, and for ensuring that this also contributes to income generation and poverty reduction and a reduction of threats to biodiversity. The vision developed at the local level, while reflecting local priorities and realities, should take into account, as appropriate, national and regional tourism development strategies, policies and plans for economic and social development and for land-use, as well as the baseline information and review. It should be based on a multi-stakeholder process including indigenous and local communities that are or may be affected by tourism development.

Goals

22. The main goals are established to maximize the positive benefits of tourism to biodiversity, ecosystems, and economic and social development, and of biodiversity to tourism, while minimizing negative social and environmental impacts from tourism, and can cover, *inter alia*:

- (a) Maintenance of the structure and functioning of ecosystems;
- (b) Sustainable tourism compatible with biodiversity conservation and sustainable use;
- (c) Fair and equitable sharing of benefits of tourism activities, with emphasis on the specific needs of the indigenous and local communities concerned;
- (d) Integration and interrelation with other plans, developments or activities in the same area;
- (e) Information and capacity-building;
- (f) Poverty reduction, through the generation of sufficient revenues and employment to effectively reduce threats to biodiversity in indigenous and local communities;

- (g) Protection of indigenous livelihoods, resources and of access to those resources;
- (h) Diversification of economic activities beyond tourism to reduce dependency on tourism;
- (i) Prevention of any lasting damage to biological diversity, ecosystems, and natural resources, and of social and cultural damage, and restoration of past damage;
- (j) Ensuring the effective participation and involvement of representatives of indigenous and local communities in all aspects of the development, operation and monitoring of tourism activities;
- (k) Zoning and control of tourism developments and activities, including licensing and overall targets for and limits to the scale of tourism, to provide a range of activities for user groups that meet overall visions and goals;
- (l) Empowerment through participation in decision-making;
- (m) Access by indigenous and local communities to infrastructure, transport, communications and healthcare provisions laid on for tourists;
- (n) Increased safety for indigenous local communities;
- (o) Increased social pride;
- (p) Control of tourism development and activities including licensing and clear indication on the limits to the scale and type of tourism development.

23. In relation to sharing of benefits arising from tourism and the conservation of biodiversity with indigenous and local communities, it should be noted that benefits may take various forms, including: job creation, fostering local enterprises, participation in tourism enterprises and projects, education, direct investment opportunities, economic linkages and ecological services. Appropriate mechanisms need to be established/ evolved to capture the benefits.

24. The vision and goals will form the basis of national strategies or master plans for sustainable development of tourism in relation to biodiversity. Such plans should also incorporate consideration of biodiversity strategies and plans. In addition, biodiversity strategies and plans should include consideration of tourism issues.

25. Governments will normally coordinate this process at national level. This process may also be undertaken at more local levels by local government, and by communities at community level. Where local and community level vision and goals for tourism and biodiversity have been set, these may be taken into account by governments when preparing the national level vision and goals, for example through workshops at the local level.

3. Objectives

26. The objectives focus on actions to implement specific elements of the overall vision and goals, and may include clear activities and the time by which these will be achieved. Objectives should be performance-based (e.g., construction of an interpretative trail to aid development of local guide services) and process-based (e.g., establishment of an operational management system for tourism and biodiversity). As with the vision and goals, it is important to involve and consult with all relevant stakeholders, and especially the tourism industry and indigenous and local communities that are or may be affected by tourism development, in the process for setting objectives.

27. Objectives should be specific and should include specific areas identified in clearly delineated zones listing the types of activities and infrastructure that would be acceptable and should be developed. It should also outline the impact management measures that would be appropriate, and intended markets (with greater detail, as set out in the notification process, being required for proposals for tourism development or activities at specific locations).

28. Governments may also wish to consider:

(a) Measures to ensure that sites designated at international level, such as Ramsar or World Heritage sites or Biosphere Reserves, are accorded appropriate legal recognition and government assistance at the national level;

(b) Establishing reserves based on the biosphere reserve concept and incorporating sustainable-development objectives, generating income and employment opportunities for indigenous and local communities, and promoting appropriate product development;

(c) Measures to ensure that sites, at the national level, such as national parks, reserves and marine conservation areas are accorded appropriate legal recognition, have management plans and are provided necessary government support;

(d) Strengthening the protected area network and encouraging the role of protected areas as key locations for good practices in the management of sustainable tourism and biodiversity, taking into account the full range of protected area categories;

(e) Use of economic policy tools to encourage the channelling of part of total tourism revenues towards supporting the conservation and sustainable use of biodiversity, such as conservation of protected areas, education, research programmes, or local community development;

(f) Encouraging all stakeholders, as well as the private sector, to actively support the conservation of biodiversity and the sustainable use of its components.

29. Governments will normally coordinate this process at national level. This process may also be undertaken at more local levels by local government, and by communities at community level. Where local- and community-level objectives for tourism and biodiversity have been set, these may be taken into account by governments when preparing national level objectives.

4. *Legislation and control measures*

30. Respect for existing national legislation and appropriate regulatory mechanisms and tools, such as land-use planning, protected area management plans, environmental assessment, building regulations and standards for sustainable tourism, are essential for the effective implementation of any overall vision, goals, and objectives. A review of legislation and control measures could consider, as appropriate, the legislation and control measures available for implementation of the overall vision, goals and objectives for tourism and biodiversity, their effectiveness, including enforcement, and any gaps that may need to be addressed for example, by revision of—or the development of additional—legislation and control measures.

31. The review of legislation and control measures could include, *inter alia*, assessment of the effectiveness of any provisions for resource management, access, and/or ownership by communities, especially indigenous and local communities that are traditional use areas for their livelihoods and cultural purposes; addressing existing collective rights of indigenous and local communities; and for enabling these groups to make decisions about tourism development and activities, amongst other forms of development and activities, in these areas.

32. Legislation and control measures considered could include measures for:
- (a) Effective enforcement of existing laws, including the participation of all stakeholders;
 - (b) Approval and licensing processes for tourism development and activities;
 - (c) Controlling the planning, siting, design and construction of tourism facilities and infrastructures;
 - (d) Management of tourism in relation to biodiversity and ecosystems, including vulnerable areas;
 - (e) Application of environmental assessment, including assessment of cumulative impacts and effects on biodiversity, to all proposed tourism developments, and as a tool to develop policies and measure their impacts;
 - (f) Setting national standards and/or criteria for tourism that are consistent with overall national or regional plans for sustainable development and national biodiversity strategies and action plans:
 - (i) Environmental quality and land-use criteria in and around tourism sites;
 - (ii) Development of a decision-making process with environmental and cultural sustainability guidelines for new and existing tourism development within the designated goals and objectives of the site's different zones and within the limits of acceptable change;
 - (g) Integrated land-use management;
 - (h) Ensuring inter-linkages between tourism and cross-cutting issues, including agricultural development, coastal zone management, water resources, etc.;
 - (i) Mechanisms to resolve any inconsistencies between policy objectives and/or legislation in a manner that takes into account the interests of all stakeholders;
 - (j) Application of economic instruments, including tiered user fees, bonds, taxes or levies, for the management of tourism and biodiversity;
 - (k) Creating incentives for sustainable tourism development in line with the provisions of the Convention on Biological Diversity and Agenda 21 through relevant economic mechanisms;
 - (l) Supporting private sector voluntary initiatives consistent with these Guidelines, such as certification schemes and providing opportunities for the private tourism sector to contribute to management initiatives through direct donations, in-kind services, and other voluntary initiatives consistent with these Guidelines, and relevant policies;
 - (m) Avoiding tourism development or activities outside those areas set out in the objectives;
 - (n) Monitoring, control of and provision of information on activities related to collection and trade of biological and related cultural resources within tourism sites.
33. Governments will normally coordinate this process at the national level. It is important to involve and consult with all relevant stakeholders, and especially indigenous and local communities that are or may be affected by tourism development, in the process for reviewing legislation and control measures,

assessing their adequacy and effectiveness, and proposing development of new legislation and measures where necessary.

5. *Impact assessment*

34. Impact assessment for sustainable tourism development in ecosystems should be based on the “Guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment” developed by the Convention on Biological Diversity and contained in the annex to decision VI/7 (paras 1-24).

35. At national level, Governments should normally undertake assessment of impacts associated with the overall vision, goals and objectives for tourism and biodiversity. In addition, this process may also be undertaken at more local levels by local government, and by indigenous and local communities.

36. Proposers of tourism developments or activities should assess the potential impacts of their proposals and provide information on this through a notification process.

37. Governments will normally undertake evaluations of the adequacy of impact assessments submitted by proposers of tourism developments or activities. These evaluations will need to be undertaken by an appropriately qualified team, drawing on a range of expertise, including expertise in tourism and in biodiversity management, and also involving those indigenous and local communities that would be affected by the proposals. There should be public access to the documentation.

38. If the information provided is not sufficient, or the impact assessment inadequate, then further impact assessment studies may need to be undertaken. The proposer may be requested to undertake such studies, or the Government may decide to undertake these studies, and may request funds from the proposer for this purpose, as appropriate. Other stakeholders, including biodiversity managers and indigenous and local communities that may be affected by a proposed development, may also provide their assessments of impacts associated with specific proposals for tourism developments or activities, and provisions may be needed to ensure that any such assessments are taken into account by decision-makers.

39. Indigenous and local communities concerned should be fully involved in impact assessment. Their traditional knowledge should be acknowledged and considered for impact assessment in particular tourism projects that affect their sacred sites or lands and waters occupied or used by indigenous and local communities.

40. Sufficient time should be allowed considering the different conditions and circumstances to ensure that all stakeholders are able to participate effectively in the decision-making process for any project using information provided by the impact assessment. Such information should be provided in forms that are accessible and comprehensible to all the various stakeholders involved.

41. Impacts of tourism in relation to the environment and biological diversity may include:

(a) Use of land and resources for accommodation, tourism facilities and other infrastructure provision, including road networks, airports and seaports;

(b) Extraction and use of building materials (e.g., use of sand from beaches, reef limestone and wood);

(c) Damage to or destruction of ecosystems and habitats, including deforestation, draining of wetlands, and intensified or unsustainable use of land;

- (d) Increased risk of erosion;
- (e) Disturbance of wild species, disrupting normal behaviour and potentially affecting mortality and reproductive success;
- (f) Alterations to habitats and ecosystems;
- (g) Increased risk of fires;
- (h) Unsustainable consumption of flora and fauna by tourists (e.g., through picking of plants; or purchase of souvenirs manufactured from wildlife, in particular such endangered species as corals and turtle shells; or through unregulated hunting, shooting and fishing);
- (i) Increased risk of introduction of alien species;
- (j) Intensive water demand from tourism;
- (k) Extraction of groundwater;
- (l) Deterioration in water quality (freshwater, coastal waters) and sewage pollution;
- (m) Eutrophication of aquatic habitats;
- (n) Introduction of pathogens;
- (o) Generation, handling and disposal of sewage and waste-water;
- (p) Chemical wastes, toxic substances and pollutants;
- (q) Solid waste (garbage or rubbish);
- (r) Contamination of land, freshwater and seawater resources;
- (s) Pollution and production of greenhouse gases, resulting from travel by air, road, rail, or sea, at local, national and global levels;
- (t) Noise.

42. Socio-economic and cultural impacts related to tourism may include:

- (a) Influx of people and social degradation (e.g. local prostitution, drug abuse, etc.);
- (b) Impacts on children and youth;
- (c) Vulnerability to the changes in the flow of tourist arrivals which may result in sudden loss of income and jobs in times of downturn;
- (d) Impacts on indigenous and local communities and cultural values;
- (e) Impacts on health and the integrity of local cultural systems;
- (f) Intergenerational conflicts and changed gender relationships;
- (g) Erosion of traditional practices and lifestyles;

(h) Loss of access by indigenous and local communities to their land and resources as well as sacred sites, which are integral to the maintenance of traditional knowledge systems and traditional lifestyles.

43. The potential benefits of tourism may include:

- (a) Revenue creation for the maintenance of natural resources of the area;
- (b) Contributions to economic and social development, for example:
 - (i) Funding the development of infrastructure and services;
 - (ii) Providing jobs;
 - (iii) Providing funds for development or maintenance of sustainable practices;
 - (iv) Providing alternative and supplementary ways for communities to receive revenue from biological diversity;
 - (v) Generating incomes;
 - (vi) Education and empowerment;
 - (vii) An entry product that can have direct benefits for developing other related products at the site and regionally;
 - (viii) Tourist satisfaction and experience gained at tourist destination.

6. *Impact management and mitigation*

44. Impact management is essential to avoid or minimize any potential damage to biodiversity conservation and sustainable use that tourism development or activities might cause. Proposals for tourism development or activities may incorporate proposals for impact management, but these may not necessarily be judged sufficient to deal with potential impacts on biodiversity. Therefore all stakeholders, and especially Governments that exercise overall control over tourism development and activities, will need to consider the various impact management approaches that may be necessary in any given situation. In particular, Governments should be aware that the tourism industry could provide a direct impetus for conservation of vulnerable ecosystems by supporting sustainable tourism activities that have a direct commercial interest in maintaining the vulnerable ecosystem in a good condition.

45. Tourism should be planned and managed using the internationally accepted planning methodologies (such as the Recreation Opportunity Spectrum and the Limits of Acceptable Change). In vulnerable ecosystems, based on these methodologies and relevant background information, tourism should be restricted and where necessary prevented.

46. Impact management can include, *inter alia*, measures for the siting of tourism development and activities, including establishing appropriate activities in different designated zones, differentiation between the impacts of different types of tourism, and measures to control tourist flows in and around tourist destinations and key sites, to promote appropriate behaviour by tourists so as to minimize their impacts, and to establish limits to numbers of visitors and their impacts within Limits of Acceptable Change at any site.

47. Impact management in relation to transboundary ecosystems and migratory species requires regional cooperation.

48. There is a need to identify those who will be responsible for implementing impact management and the resources that will be required for impact management.

49. Impact management for tourism development and activities can include the adoption and effective implementation of policies, good practices and lessons learned that cover, *inter alia*:

(a) Controlling impacts of major tourist flows including excursions, cruise ships, etc., which can cause serious effects on destinations even though they are visited for only short periods;

(b) Reducing impacts of activities outside tourism areas on adjacent and other ecosystems of importance for tourism (e.g., pollution from nearby farming activities or extractive industries may affect areas of tourism development);

(c) Responsible use of natural resources (e.g., land, soil, energy, water);

(d) Reducing, minimizing and preventing pollution and waste (e.g. solid and liquid waste, emissions to air, transport);

(e) Promoting the design of facilities that are more eco-efficient, which adopt the cleaner production approach, and use environmentally sound technologies, in particular to reduce emissions of carbon dioxide and other greenhouse gases and ozone-depleting substances, as set out in international agreements;

(f) Conserving flora, fauna and ecosystems;

(g) Preventing the introduction of alien species as a result of the construction, landscaping and operating of tourism activities, including for example from shipping associated with tourism;

(h) Conserving landscapes, cultural and natural heritage;

(i) Respecting the integrity of local cultures and avoiding negative effects on social structures, involving, and cooperating with, indigenous and local communities, including measures to ensure respect for sacred sites and customary users of these sites, and to prevent negative impacts on them and on lands and waters occupied or used by indigenous and local communities, as well as on their subsistence resources;

(j) Using local products and skills, and providing local employment;

(k) Promoting appropriate behaviour by tourists so as to minimize their adverse impacts, and to promote positive effects through education, interpretation, extension, and other means of awareness-raising;

(l) Alignment of marketing strategies and messages with the principles of sustainable tourism;

(m) Contingency plans for handling accidents, emergencies or bankruptcies that may occur during construction and use of facilities and which may threaten the environment and the conservation and sustainable use of biodiversity;

(n) Environmental and cultural sustainability audits and review of existing tourism activities and developments and of the effectiveness with which impact management is being applied to existing tourism activities and developments;

(o) Mitigation measures for existing impacts, and appropriate funding to support them. Such measures should include development and implementation of compensation measures in cases when tourism has resulted in negative environmental, cultural, and socio-economic effects, taking into consideration the polluter-pays principle.

50. Governments, in cooperation with biodiversity managers, those communities that would be affected by the proposals, and other stakeholders, would normally assess the need for impact management in addition to any management measures included in the proposals under consideration. All stakeholders should understand the importance of such impact management.

51. The tourism industry can assist in promoting corporate policies on sustainable tourism and biodiversity, with defined goals, monitoring and reporting their progress publicly on a regular basis.

7. *Decision-making*

52. Decisions will be made concerning approval or otherwise of, *inter alia*:

- (a) National strategies and plans for tourism and biodiversity;
- (b) Proposals for tourism development and activities at particular locations in relation to biodiversity, which are to be submitted through the notification process;
- (c) Adequacy of impact management measures in relation to anticipated impacts from tourism development and activities;
- (d) Adequacy and frequency of monitoring and reporting.

53. Such decisions will ultimately be taken by Governments (or specific authorities designated by Governments). It is recognized, however, that effective consultation with and participation of the communities and groups affected, including specific input from biodiversity managers, and from indigenous and local communities as well as the private sector in a broad sense, is an important foundation of the decision-making process and critical to sustainable development. Decision makers should consider using multi-stakeholder processes as a tool for the decision-making process.

54. The decision-making process should be transparent, accountable, and apply the precautionary approach. Legal mechanisms should be put in place for notification and approval of tourism development proposals and for ensuring implementation of the conditions of approval of development proposals.

55. For proposals for tourism development and activities at particular locations, the proposers will normally be required to provide the information set out in the notification process. This should apply equally to public-sector development and infrastructure projects, as well as to private-sector development. Impact assessment should be a component of any decision-making process.

56. Measures should be taken to ensure full and timely disclosure of project information concerning tourism development proposals. Decision-making should include the prior informed consent of indigenous and local communities affected by projects in order to ensure, *inter alia*, respect for the customs and traditional knowledge, innovations and practices of indigenous and local communities, and adequate funding and technical support should be provided for these groups to participate effectively. A thorough consultation process with the indigenous and local community, based on the availability of all relevant information, is needed as a basis for prior informed consent.

57. Decisions should include a review of the adequacy of information available, that could cover, *inter alia*, baseline information, impact assessment, and information on the proposed tourism

development or activity, its nature and size, the type(s) of tourism involved, and information on human settlements and communities that may be affected.

58. In cases where there is not sufficient contextual/baseline information available at the time, or where the overall vision, goals and objectives for tourism and biodiversity have not been developed sufficiently to make a decision, decisions may be deferred pending sufficient information being obtained, and/or completion of overall plans/goals.

59. In making a decision, conditions may be attached to any approvals that may be granted, including conditions regarding management of tourism in relation to avoidance or minimization of adverse impacts on biodiversity, and for appropriate decommissioning of tourism activities should the development cease. Decision makers may also, as appropriate, request further information from a proposer; defer a decision pending further baseline research by other agencies; or refuse a proposal.

8. *Implementation*

60. Implementation follows a decision to approve a particular proposal, strategy or plan. Unless otherwise stated, the developer and/or operator will be responsible for complying with the conditions for granting the approval; and, as part of this process, they can also be required to notify the designated government authority of any failures to comply with conditions attached to an approval, including conditions for decommissioning, and/or of any changes in circumstances, including unforeseen environmental conditions and/or biodiversity issues (e.g., detection of rare or endangered species not recorded in the original proposal and impact assessment).

61. Any revisions or changes to an approved project, including additions and/or variations of activities, must be approved by the designated authorities before construction.

62. Implementation plans should recognize that indigenous and local communities and other relevant stakeholders may require assistance as actors in implementation, and should ensure that sufficient resources are available for implementation and for effective participation.

63. Local stakeholders should be given an ongoing opportunity to express their wishes and concerns to those managing tourism facilities and activities. As part of this process, clear and adequate information regarding implementation should be provided for review by the stakeholders, in forms that are accessible and comprehensible to them.

64. Availability of information on policies, programmes, projects, and their implementation, including information on existing and future guidelines, should be ensured and exchange of information fostered, for example, through the clearing house mechanism of the Convention on Biological Diversity.

9. *Monitoring and reporting*

65. It is necessary to establish a monitoring and control system for the management of tourism activities and biological diversity. Long-term monitoring and assessment are necessary in relation to the impacts of tourism on biodiversity, and will need to take into account the timescale for ecosystem changes to become evident. Some effects may develop quickly, while others may take place more slowly. Long-term monitoring and assessment provide a means for detecting adverse effects that may arise from tourism activities and development in relation to biodiversity, so that action can be taken to control and mitigate such effects.

66. Monitoring and surveillance in relation to management of tourism and biodiversity includes, *inter alia*, the following main areas:

(a) Implementation of approved tourism developments or activities, and compliance with any conditions attached when approval was granted, and taking appropriate actions in cases of non-compliance;

(b) Impacts of tourism activities on biodiversity and ecosystems, taking appropriate preventative actions as necessary;

(c) Impacts of tourism on the surrounding population, especially indigenous and local communities;

(d) General tourism activities and trends, including tour operations, tourism facilities, and tourist flows in originating and receiving countries, including progress towards sustainable tourism;

(e) Clearly defined objectives, actions and targets for conservation or mitigation of threats to biodiversity, maintenance or restoration of ecosystems and for tourism;

(f) Compliance with, and enforcement as necessary, of conditions attached to any approval. Communities and other interested stakeholders may also monitor and report their findings to the designated government authorities.

67. Developers and operators of tourism facilities and activities should be required to report periodically to designated authorities and to the public on compliance with conditions set out in approvals, and on the condition of biodiversity and the environment in relation to the tourism facilities and activities for which they are responsible.

68. Prior to the commencement of any new tourism development or activities, an inclusive monitoring and reporting system should be put in place, with indicators to track how tourism actions are mitigating threats to biodiversity, along with agreed upon quantifiable standards indicating thresholds of acceptable change. These should be developed in conjunction with all key stakeholders including indigenous and local communities.

69. Indicators to cover aspects of management of biodiversity and sustainable tourism, including socio-economic and cultural aspects, should be identified and monitored at global, national, and local levels, and should include, but not be limited to, the following:

(a) Conservation of biodiversity;

(b) Generation of income and employment from tourism (long-term and short-term);

(c) Proportion of tourism income retained in the local community;

(d) Effectiveness of multi-stakeholder processes for management of biodiversity and sustainable tourism;

(e) Effectiveness of impact management;

(f) Contribution of tourism to the well-being of the local population;

(g) Visitor impacts and visitor satisfaction.

70. Monitoring results depend largely on the appropriate set of data to be collected. Guidelines on how to collect data in a way that can be used to evaluate change over time should be developed.

Monitoring could follow a standard process and format, and be based on a framework including parameters on social, economic, environmental and cultural impact.

71. Monitoring and surveillance in relation to biodiversity impacts should include activities undertaken to ensure respect for endangered species under relevant international agreements, prevention of the introduction of alien species as a result of tourism activities, compliance with national rules concerning access to genetic resources, and prevention of illegal and unauthorised removal of genetic resources.

72. In relation to indigenous and local communities, monitoring and evaluation should include development and use of appropriate tools to monitor and evaluate tourism impacts on the economy of indigenous and local communities, particularly their food and health security, traditional knowledge, practices and customary livelihoods. Use of indicators and early warning systems should be developed as appropriate, taking into account traditional knowledge, innovation and practices of indigenous and local communities, and guidelines developed under the Convention on Biological Diversity relating to traditional knowledge. Measures should also be taken to ensure that indigenous and local communities involved in, or affected by tourism, have the opportunity to be involved effectively in monitoring and evaluation.

73. Monitoring of general environmental and biodiversity conditions and trends, as well as tourism trends and impacts, can be undertaken by Governments, including designated biodiversity managers. Management measures may need to be adjusted, as appropriate, where adverse impacts on biodiversity and ecosystems are detected. The need for and nature of such adjustments will be based on the results of monitoring, and it is important for these to be determined in dialogue with all relevant stakeholders, including the developers and/or operators of tourism facilities and activities, communities affected by those facilities and activities, and other interested stakeholders. The monitoring process needs to be multi-stakeholder and transparent.

10. Adaptive management

74. The ecosystem approach requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning. Ecosystem processes are often non-linear, and the outcome of such processes often shows time-lags. The result is discontinuities, leading to surprise and uncertainty. Management must be adaptive in order to be able to respond to such uncertainties and contain elements of “learning-by-doing” or research feedback. Measures may need to be taken even when some cause-and-effect relationships are not yet fully established scientifically. ^{9/}

75. Ecosystem processes and functions are complex and variable. Their level of uncertainty is increased by the interaction with social constructs, which need to be better understood. Therefore, ecosystem management must involve a learning process, which helps to adapt methodologies and practices to the ways in which these systems are being managed and monitored. Adaptive management should also take the precautionary approach fully into account.

76. Implementation programmes should be designed to adjust to the unexpected, rather than to act on the basis of a belief in certainties.

77. Ecosystem management needs to recognize the diversity of social and cultural factors affecting natural-resource use and sustainability.

^{9/} Monitoring at World Heritage sites should be designed to also incorporate the World Heritage criteria upon which the site was inscribed. The monitoring system should be designed to contribute to the World Heritage periodic reporting structure, aimed at gathering information on the state of conservation of the site.

78. Similarly, there is a need for flexibility in policy-making and implementation. Long-term, inflexible decisions are likely to be inadequate or even destructive. Ecosystem management should be envisaged as a long-term experiment that builds on its results as it progresses. This ‘learning-by-doing’ will also serve as an important source of information to gain knowledge of how best to monitor the results of management and evaluate whether established goals are being attained. In this respect, it would be desirable to establish or strengthen capacities of Parties for monitoring. In addition, adaptive management learning portfolios should be developed between different sites so that comparison can be made and lessons learned.

79. Implementing adaptive management in relation to tourism and biodiversity will require the active cooperation of all stakeholders in tourism, and especially those in the private sector, with biodiversity managers. Impacts on biodiversity at a particular location may require rapid curtailment of visits by tourists to prevent further damage, and to allow for recovery, and in the longer-term, may necessitate an overall reduction in tourist flows. It may be possible for tourists to be redirected to less sensitive areas in such cases. In all cases, maintenance of the balance between tourism and biodiversity will require close interaction between tourism managers and biodiversity managers, and appropriate frameworks for management and dialogue are likely to need to be established.

80. Governments, including designated biodiversity managers, in conjunction with all other stakeholders will therefore need to take actions, as appropriate, to address any problems encountered and to keep on track towards agreed goals. This may include changes and additions to conditions set in the original approval, and will require participation of and consultation with the developer and/or operator of the tourism facilities and activities concerned, and with local communities.

81. Adaptive management can also be undertaken by all those who have management control over any specific site, including local governments, indigenous and local communities, the private sector, non-governmental organizations and other organizations.

82. Where necessary, legal frameworks may need to be reviewed and amended to support adaptive management, taking into account experience gained.

C. Notification process and information requirements

83. Proposals for tourism development and activities at particular locations in relation to biodiversity are to be submitted through the notification process. As such, this process provides the link between proposers of tourism activities and development, and the management process steps outlined above. In particular, the notification process makes specific links to the steps in the management process for impact assessment and decision-making and should take into account local, regional and national impacts. Proposers of tourism projects, including government agencies, should provide full and timely advance notice to all stakeholders who may be affected, including indigenous and local communities, of proposed developments through a formal process of prior informed consent.

84. Information to be provided as part of the notification could include:

(a) Scale and types of tourism development or activities proposed, including a summary of the proposed project, why and by whom it is proposed, estimated outcomes and possible impacts, and a description of the stages of development and the various structures and stakeholders that may be involved at each stage;

(b) Analysis of market for proposed tourism development or activities, based on market conditions and trends;

(c) Geographical description including recreation opportunity zones, outlining tourist activities and infrastructure development, and location of the site of tourism development or activities, the identity and any special features of the surrounding environments and biodiversity;

(d) Nature and extent of human-resource requirements and plans for their procurement;

(e) Identification of various stakeholders involved in or potentially affected by the proposed project - including stakeholders in governmental, non-governmental, and private sectors, and local communities - along with details concerning their participation in and/or consultation on the proposed project during its design, planning, construction and operation;

(f) The perceived roles of local stakeholders in the proposed development;

(g) The various laws and regulations that may be applicable to the specific site, including overviews of existing laws at local, subnational and national levels, of existing uses and customs, of relevant regional and international conventions or agreements and their status, and cross-boundary agreements or memoranda or understanding and any proposed legislation;

(h) The proximity of the site to human settlements and communities, sites used by people from those settlements and communities as part of their livelihoods and traditional activities, and heritage, cultural or sacred sites;

(i) Any flora, fauna and ecosystems that could be affected by the tourism development or activities, including keystone, rare, endangered or endemic species;

(j) Ecological aspects of the site and its surroundings, including indication of any protected areas; specifications on the ecosystems, habitats, and species; quantitative and qualitative information on the loss of habitats and species (main reasons, trends), and indexing of species;

(k) Training and supervision of personnel carrying out the tourism development or activities;

(l) Likelihood of impacts beyond the immediate area of the tourism development or activities, including transboundary impacts and effects on migratory species;

(m) A description of current environmental and socio-economic conditions;

(n) Expected changes to environmental and socio-economic conditions as a result of the tourism development or activities;

(o) Proposed management measures to avoid or minimize adverse impacts from the tourism development or activities, including verification of their functioning;

(p) Proposed measures for mitigation, decommissioning and compensation in the event of problems arising with the tourism development or activities;

(q) Proposed measures to maximize the local benefits of the tourism development or activities on surrounding human settlements and communities, biodiversity and ecosystems, which may include, but are not limited to:

(i) Using local products and skills;

(ii) Employment;

(iii) Restoration of biodiversity and ecosystems;

(r) Relevant information from any previous tourism development or activities in the region, and information on possible cumulative effects;

(s) Relevant information from any previous tourism development or activities by the proposer.

85. Categories of responses that Governments may wish to consider making in response to notification of proposals for, and requests for permission to undertake, tourism development, include, *inter alia*:

- (a) Approval without conditions;
- (b) Approval with conditions;
- (c) Request for further information;
- (d) Deferral pending further baseline research by other agencies;
- (e) Refusal of the proposal.

D. Education, capacity-building and awareness-raising

86. Education and awareness-raising campaigns need to be addressed to both the professional sectors and the general public and should inform them about the impacts of tourism on biological diversity, and good practices in this area. The private sector, and, especially, tour operators, could provide information more widely to their clients—the tourists—about tourism and biodiversity issues, and encourage them to conserve, and avoid adverse impact on, biodiversity and cultural heritage to respect national legislation of the visited country, as well as traditions of indigenous and local communities of that country, and to support actions in conformity with the present Guidelines.

87. Awareness campaigns explaining the link between cultural diversity and biological diversity will need to be tailored for various audiences, particularly stakeholders including consumers of tourism, developers and tourism operators.

88. Education and awareness-raising is required at all levels of government. This should include processes for increasing mutual understanding between relevant ministries, including joint and innovative approaches for dealing with tourism and environmental issues.

89. Awareness should also be increased within and outside government that vulnerable ecosystems and habitats are often located within lands and waters occupied or used by indigenous and local communities.

90. The tourism sector as a whole, along with tourists should be encouraged to minimize any negative impacts and maximize positive impacts on biodiversity and local cultures associated with their consumption choices and behaviour, for example through voluntary initiatives.

91. It is also important to raise awareness within the academic sector responsible for training and research on issues regarding the interaction between biological diversity and sustainable tourism, of the role that they can play concerning public education, capacity-building and awareness-raising on these issues.

92. Capacity-building activities should aim to develop and strengthen the capacities of Governments and all stakeholders to facilitate the effective implementation of the present Guidelines, and may be necessary at local, national, regional and international levels.

93. Capacity-building activities can be identified through the adaptive management process and can include strengthening human resources and institutional capacities, the transfer of know-how, the development of appropriate facilities, and training in relation to biological diversity and sustainable tourism issues, and in impact assessment and impact management techniques.

94. Such activities should include ensuring that local communities are equipped with the necessary decision-making abilities, skills and knowledge in advance of future tourist in-flows, as well as with relevant capacity and training regarding tourism services and environmental protection.

95. Capacity-building activities should include, but not be limited to:

(a) Capacity-building and training to assist all stakeholders, including Governments, and indigenous and local communities, in accessing, analysing and interpreting baseline information, undertaking impact assessments and evaluations, impact management, decision-making, monitoring and adaptive management;

(b) Development or strengthening of mechanisms for impact assessment with the participation of all stakeholders, including for the approval of the approach, content and scope of impact assessment;

(c) Establishment of multi-stakeholder processes involving government departments, tourism sector, non-governmental organizations, indigenous and local communities and other stakeholders;

(d) Training of tourism professionals in conservation and biodiversity issues.

96. Information exchange and collaboration regarding sustainable tourism implementation through networking and partnerships between all stakeholders affected by, or involved in tourism, including the private sector, should be encouraged.

VIII/6. Operational plan of the Subsidiary Body on Scientific, Technical and Technological Advice and assessment of recommendations made to the Conference of the Parties by the subsidiary body on scientific, technical and technological advice

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Requests* the Bureau of Subsidiary Body on Scientific, Technical and Technological Advice to review the strategic plan of the Subsidiary Body (UNEP/CBD/SBSTTA/8/12), to be referred to hereinafter as the “Operational Plan of the SBSTTA”, for consideration by the Subsidiary Body at its tenth meeting. The review should take into account, *inter alia*, the recommendations of the Open-ended Inter-Sessional Meeting on the Multi-Year Programme of Work of the Conference of the Parties up to 2010; decisions of the Conference of the Parties at its seventh meeting relevant to scientific, technical and technological matters; and comments made by Parties at this meeting, in particular, on the importance of using a holistic approach in addressing matters addressed by the Subsidiary Body, the need for promoting synergy between the Convention and other relevant conventions and agreements, the need for improving the efficiency of focal points for the Subsidiary Body in their national environment and the participation of the scientific community in the implementation of the Convention, and the need for timely and adequate financial resources to implement the Plan;

2. *Takes note* of the review of the recommendations of the Subsidiary Body carried out by the Executive Secretary in consultation with the bureaux of the Subsidiary Body and the Conference of the Parties (UNEP/CBD/SBSTTA/8/13).

VIII/7. Multi-year programme of work of the Conference of the Parties up to 2010

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Recommends* that the Strategic Plan, and its target of 2010 for significantly reducing the rate of biodiversity loss, should guide the implementation of the multi-year programme of work;
2. *Also recommends* that in light of the current heavy workload of the Convention, the addition of new items for in-depth consideration is not desirable until after 2010, with the exception of in-depth consideration of island biodiversity;
3. *Further recommends* that if a limited number of new items are to be added, they should be prioritized and clearly further the implementation of the Strategic Plan, taking into consideration its 2010 target;
4. *Agrees* that the in-depth review of existing areas of work should be treated as a priority, with special emphasis on assessing progress in implementation, concentrating on key issues that are affecting implementation of the Convention;
5. *Recommends* that, in setting the agendas of future meetings of the Conference of the Parties, issues relating to each of the three objectives of the Convention should be addressed in a balanced way. The number of items for in-depth review should be limited to a maximum of three;
6. *Also recommends* that the focus should be on implementation of the programmes of work by Parties, corresponding to national priorities as set forward in national biodiversity strategies and action plans. Development of strategies for implementation should include an analysis of obstacles, and ways to overcome those obstacles, and should concentrate on practical action, such as multi-Party collaborative initiatives. Building of national capacity, with special emphasis on technology transfer and scientific research, should also be addressed;
7. *Recognizing* the need to consider means and mechanism of improving implementation support for the Convention, *recommends* that the clearing-house mechanism should further contribute to the practical implementation of the programmes of work, through facilitating the exchange of information, transfer of technology, sharing of expertise, capacity-building, and best practices, as an important element of any implementation support mechanism;
8. *Recommends* that, at each of its meetings until 2010, the Conference of the Parties, including its Ministerial Segment, should assess, as an explicit agenda item, the state of progress in achieving the goals of the Strategic Plan and progress towards achievement of its 2010 targets;
9. *Notes* that some Parties recommend that the in-depth review of the implementation of the expanded programme of work on forest biological diversity be advanced from the ninth to the eighth meeting of the Conference of the Parties, while others recommend that it should be postponed until the tenth meeting of the Conference of the Parties or later.

Annex II

**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. Progress in the implementation of the thematic programmes of work;
 - 3.2. Progress in the implementation of the programmes of work on cross-cutting issues;
 - 3.3. Report of the Chair of the Subsidiary Body on Scientific, Technical and Technological Advice on the inter-sessional activities of the Bureau.
4. Main themes:
 - 4.1. Protected areas;
 - 4.2. Technology transfer and cooperation.
5. Other substantive issues:
 - 5.1. Ecosystem approach: further elaboration and guidelines for implementation;
 - 5.2. Sustainable use: development of practical principles, operational guidelines and associated instruments;
 - 5.3. Monitoring and indicators: designing national-level monitoring programmes and indicators;
 - 5.4. Biological diversity and climate change;
 - 5.5. Mountain ecosystems.
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.
