



**CONVENTION ON  
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SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND  
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Second Meeting

Montreal, 2 to 6 September 1996

**REPORT BY THE EXECUTIVE SECRETARY ON  
MARINE AND COASTAL BIOLOGICAL DIVERSITY**

Note by the Secretariat

**1. BACKGROUND**

1. In recent years, there has been a steady increase in public awareness worldwide of the economic, social, environmental, cultural, recreational and other critical benefits derived from marine and coastal biological diversity, including its components. A consensus has emerged that the threats to marine and coastal biological diversity are both immediate and severe, and require urgent attention.

2. As evidence of the priority now being assigned by governments to this area, at its first meeting the Conference of the Parties to the Convention on Biological Diversity (COP) selected marine and coastal biological diversity as the first major ecosystem "theme" to be addressed systematically under the Convention process, as part of the COP's medium-term programme of work.

1.1 Recommendation I/8 by the SBSTTA

3. To help prepare for the discussion of this topic at its second meeting, the COP requested that the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) provide advice on the scientific, technical and technological aspects of the conservation and sustainable use of marine and coastal biological diversity. This advice was provided by the SBSTTA at its first meeting and is contained in Recommendation I/8 of the final report of the meeting (UNEP/CBD/COP/2/5, pp. 34 - 43; attached as Annex 4).

4. Recommendation I/8 of SBSTTA contained, in particular, an extensive set of recommendations for specific actions by parties to implement the Convention in relation to marine and coastal environments. These

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recommendations (paragraphs 10 - 19 of Recommendation I/8) covered five themes:

- (i) integrated marine and coastal area management (IAM);
- (ii) marine and coastal protected areas (MPAs);
- (iii) sustainable use of coastal and marine living resources (CMLR);
- (iv) mariculture; and
- (v) alien species.

## 1.2 Decision II/10 by the COP

5. At the second meeting of the COP, decision II/10 on the conservation and sustainable use of marine and coastal biological diversity was adopted (UNEP/CBD/COP/2/19; attached as Annex 5); it is referred to in the Ministerial Statement adopted at this meeting as the "Jakarta Mandate on Marine and Coastal Biodiversity" (Jakarta Mandate).

6. The Jakarta Mandate consists of several elements, including: support for the SBSTTA's recommendations for action by Parties in the above five thematic areas, additional conclusions on Recommendation I/8 (Annex I of decision II/10), an invitation to international and regional bodies to become engaged in implementation of the Jakarta Mandate, and establishment of a three-year process to further elaborate upon Recommendation I/8, with the exception of paragraphs 3 and 4. Some of the paragraphs in the main body of Decision II/10 most relevant to the subject of the current document are highlighted below:

- (I) Paragraph 1 (on SBSTTA recommendation I/8 and future work under SBSTTA)
  - "Takes note of [SBSTTA] recommendation I/8..."
  - "Affirms that it [Recommendation I/8] represents a solid basis for future elaboration of the issues presented";
  - "Supports the recommendations in paragraphs 10 - 19 of Recommendation I/8, subject to Annex I of the present decision and its further elaboration by the SBSTTA and the COP"; and
  - "Reaffirms the importance of future work by the SBSTTA to provide a balanced perspective on the remaining issues presented by the recommendations in I/8 and Annex I of the present decision relevant to the conservation and sustainable use of marine and coastal biodiversity".
- (ii) Paragraph 6 (on the role of SBSTTA)
  - "Reaffirms that under Article 25 [of the Convention] the SBSTTA is the only scientific, technical, and technological authority under the Convention to provide advice to the Conference of the Parties";
- (iii) Paragraph 7 (advice and options by Executive Secretary to SBSTTA)
  - "Instructs the [Convention] Executive Secretary to provide, in accordance with Annex II [of Decision II/10], the SBSTTA with scientific, technical and technological advice and options for recommendations to the COP in further elaborating the recommendations contained in Recommendation I/8, with the exception of paragraphs 3 and 4";

- (iv) Paragraph 8 (guidance to the Executive Secretary for developing its advice to the SBSTTA)
- "Solicit input from all Parties and, as appropriate, from other countries and relevant bodies";
  - "Establish, on the basis of country input, a roster of experts with specialization appropriate to the work described in paragraph 6";
  - "The roster will draw upon expertise from scientific, technical, technological, social, management, economic, policy, legal, and indigenous and traditional knowledge";
  - "Convene, as appropriate, meetings of experts, drawn from the roster, to support the Secretariat in advancing the work described in paragraph 6. Each meeting shall be for a duration of no longer than five days, and shall be comprised of no more than 15 experts with due regard to geographical representation and to the special conditions of least-developed countries and small island developing States".
- (v) Paragraph 9 (offer to host first meeting):
- "Welcomes the offer from Indonesia to be host country for the first such meeting of experts on marine and coastal biodiversity".
- (vi) Paragraph 14 (summary review by the SBSTTA):
- "Decides to request the SBSTTA to carry out a summary review at its next meeting of the first report from the Executive Secretary and to submit in its report to the COP its recommendation on the work of the Executive Secretary".

## 2. REPORT OF THE EXECUTIVE SECRETARY

7. Annex II to Decision II/10 contains a "Draft Programme for Further Work on Marine and Coastal Biological Diversity". Paragraph 4 of Annex II states that the Executive Secretary shall produce annual reports to the SBSTTA and that the first annual report will include a three-year work plan.

8. Paragraph 8 of decision II/10 offered the following guidance to the Executive Secretary for developing the three-year work plan:

- (a) Solicit input from all Parties and, as appropriate, from other countries and relevant bodies;
- (b) Establish, on the basis of country input, a roster of experts with specialization appropriate to the work described in paragraph 6;
- (c) The roster will draw upon expertise from scientific, technical, technological, social, management, economic, policy, legal, and indigenous and traditional knowledge;

- (d) Convene, as appropriate, meetings of experts, drawn from the roster to support the Secretariat in advancing the work described in paragraph 6 [advice of the Executive Secretary to the SBSTTA]. Each meeting shall be for a duration of no longer than five days, and shall be comprised of no more than 15 experts with due regard to geographical representation and to the special conditions of least-developed countries and small island developing States".

9. On 22 December 1995, the Executive Secretary requested Parties to nominate experts for inclusion in the Roster of Experts on the Conservation and Sustainable Use of Marine and Coastal Biological Diversity. By the end of June 1996 the Secretariat received contributions from 56 Parties. It has not so far been possible at any stage during 1996 to constitute a meetings of experts from the roster that properly reflected regional representation of the Parties to the Convention.

10. On 11 January 1996, the Executive Secretary requested written contributions and information on the conservation and sustainable use of marine and coastal biological diversity from the Parties. The Secretariat received contributions from 5 Parties.

11. In an effort to ensure that some progress was made since the second meeting of the COP and that the momentum generated by the adoption of the Jakarta Mandate was not lost, the Executive Secretary convened an informal working group to assist him in developing his advice for the SBSTTA.

12. This informal working group was convened several times by telephone. The informal working group was composed of members drawn from government, intergovernmental organisations and non-governmental organisations. The informal working group assisted the Executive Secretariat in developing the three-year work programme, contained in this Note.

### **3. THE COP GUIDANCE FOR A MEDIUM-TERM PROGRAMME OF WORK ON MARINE AND COASTAL BIOLOGICAL DIVERSITY**

13. Annex II to Decision II/10 which, calls upon the Executive Secretary to produce a three-year work plan, also provides the basic guidance, or "terms of reference", for the development of this programme of work. This guidance can be described as follows:

- (i) Paragraph 1 states that the "Executive Secretary will use as the basis of [further] work Recommendation I/8 of the SBSTTA, this decision [II/10] and further inputs, if any, from the COP".
- (ii) Paragraph 2 states that the "Executive Secretary should use the roster of experts on marine and coastal biodiversity to address the following topics:
- Identify options for a pragmatic but comprehensive approach in addressing marine and coastal biological diversity on the basis of an ecosystems approach, including its components at the levels of species and genetic resources, distinguishing regions at relevant scales. Use the results from this activity in identifying the gaps in knowledge of the distribution and abundance of marine and coastal biodiversity;
  - Identify the particular needs for conservation and sustainable use of marine and coastal biological diversity in the context of activities which will impact on marine resources";

- Review the mandates and activities under international agreements that affect marine and coastal biological diversity, and develop analyses that can be offered by the COP to the relevant institutions as to the implications of the Convention for these activities".
- (iii) Paragraph 3 outlines general approaches that should be applied in addressing these issues, covering: the precautionary approach; interaction with other organizations; capacity-building and technology transfer; knowledge of local and indigenous communities; community- and user-based approaches; and use of the Convention clearing-house mechanism and national reports of the Parties.

14. For the reasons described above, the Executive Secretary felt that he was not able to convene a "meeting of experts" as required by decision II/10 and so developed the following proposed medium term programme on the basis of advice from an informal working group. Nevertheless, as a result of his request for contributions on the conservation and sustainable use of marine and coastal biological diversity on 11 January 1996, the proposed programme benefits from contributions from governments, intergovernmental organisations and non-governmental organisations. The Executive Secretary offers the proposed medium-term programme of work, recognising that it is more detailed and comprehensive than is required, on the basis that it would be of more assistance to the SBSTTA to have before it a comprehensive set of options than a brief and skeletal outline that merely paraphrases Annex II of decision II/10.

#### **4. THE GENERAL APPROACH ADOPTED TO DEVELOP THE PROPOSED MEDIUM TERM PROGRAMME OF WORK FOR THE CONSERVATION AND SUSTAINABLE USE OF COASTAL AND MARINE BIOLOGICAL DIVERSITY**

15. The Jakarta Mandate provides a far-reaching *framework* for action by Parties as they address the loss of marine and coastal biological diversity at all levels. Some Parties already have well-developed programmes and activities under way to implement the Jakarta Mandate. Many additional activities can be undertaken on an immediate basis to implement parts of the Mandate. However, in establishing a three-year follow-up process under the SBSTTA, the COP recognised that some vital questions still need to be answered and some key gaps still need to be filled in order to fully *implement* the Jakarta Mandate. In particular, without identifying and addressing priority gaps in information, capacity, technology and financing, many developing countries may be unable to implement key components of the Mandate.

##### 4.1 Priorities, Practical Obstacles and Mechanisms for International Cooperation

16. In light of the above, and in accordance with Annex II of Decision II/10, this draft work plan is aimed at:
- (i) **Priorities.** Identifying, as appropriate, priorities to be targeted in the implementation of the Jakarta Mandate, based on scientific, technical and other relevant criteria (Priorities could include: ecosystems, activities, uses, needs, technologies, etc.);
  - (ii) **Practical obstacles.** Identifying and addressing the *practical* scientific, technical and other obstacles to implementing specific measures in the Jakarta Mandate (particularly those targeted as priorities), thereby stimulating meaningful, on-the-ground action; and
  - (iii) **Mechanisms for international cooperation.** Developing and strengthening mechanisms for

international cooperation around implementing the Jakarta Mandate, including, in particular, more effective regional approaches and collaborative partnerships involving the Secretariat and key international agreements and institutions.

#### 4.2 Pilot Programme to Implement the Jakarta Mandate

17. Given the broad scope of the Jakarta Mandate and the complexity of the issues and problems being addressed, this three-year process could be considered a *pilot programme for implementing the Jakarta Mandate*. At the end of the pilot programme, the COP may wish to consider needed corrections and continuing activity through the Convention and other processes to fully and effectively implement the Jakarta Mandate.

#### 4.3 General Terms of Reference

18. In Decision II/10, the COP has provided relevant guidance to the Executive Secretary on the general approach to implementing the Jakarta Mandate. Paragraphs 2 and 3 of Annex II are of particular relevance.

19. Paragraph 2 provides the general terms of reference:

- (i) *Pragmatic approach*. This suggests: (a) a focus not on abstract concepts/problems, but rather on real-world, practical obstacles and available solutions; and (b) an effort to define priority areas for targeting, given pragmatic financial and other constraints.
- (ii) *Comprehensive, ecosystem-based approach*. An "ecosystem-based" approach indicates the maintenance of ecosystem integrity, including critical ecosystem functions and processes, as the principal management objective. This approach places priority on the classification, mapping and monitoring of marine and coastal ecosystems. A comprehensive approach entails extensive and continuing assessments to formulate a diversity of interventions (e.g., research, management, policy, economic, social, and legal measures) covering a wide range of sectors (e.g., coastal tourism, industrial development, agriculture, fisheries, forestry, etc.).
- (iii) *Distinguishing Regions at Relevant Scales*. This indicates a focus on regional approaches, including guidance on classifying marine and coastal ecosystems, and defining biogeographical regions, and strengthening regional institutions.
- (iv) *Identify Particular Needs for Conservation/Sustainable Use in the Context of Activities*. This indicates an assessment of impacts of human activities on marine and coastal biological diversity and an analysis of steps required to mitigate or eliminate these impacts.

- (v) *Review mandates and activities under international agreements and implications of the Convention for these activities.* This indicates the need to develop a special partnership arrangement with these international agreements in order to conduct these analyses collaboratively and to establish a broader dialogue on future cooperation and collaboration to ensure mutually supportive efforts.

#### 4.4 Additional Guidance

20. Paragraph 3 provides additional guidance on the methodology or approach that the Executive Secretary and the SBSTTA should use in developing and implementing the Jakarta Mandate:

- (i) The work should not be impeded by the lack of full scientific information and will incorporate explicitly the precautionary approach;
- (ii) The Executive Secretary may interact with a wide range of competent agencies and organizations;
- (iii) Recommendations should be made for capacity-building and technology transfer needs at all levels in the context of the issues being addressed;
- (iv) Knowledge of local and indigenous communities should be incorporated, as appropriate, as well as community- and user-based approaches; and
- (v) Use should be made, as appropriate, of the Convention clearing-house mechanism and national reports of parties.

### **5. ORGANIZATION OF WORK**

#### 5.1 Six Strands of Activity

21. In carrying out the above terms of reference, the Executive Secretary will need to organise this work into a coherent and efficient set of activities over a three-year period. Paragraph 7 of Decision II/10 "Instructs the Executive Secretary to provide, in accordance with Annex II [of Decision II/10], the SBSTTA with scientific, technical and technological advice and options for recommendations to the COP in *further elaborating the recommendations contained in [SBSTTA] Recommendation I/8*, with the exception of paragraphs 3 and 4". This implies that the work be organised into five thematic "strands" of activity around the five themes covered in recommendation I/8 and listed in paragraph 4 above. A sixth strand of work -- a global assessment of marine and coastal biological diversity -- will also need to be carried out to support the five thematic areas of activity and to provide a global overview to contribute to Phase 3 (see below). Other strands of activity of particular importance might be added if deemed appropriate and consistent with the terms of reference.

## 5.2 Three Phases of Work

22. The terms of reference outlined in paragraphs 14 and 15 above suggest that each of the five thematic strands of activity include three *phases* of work in roughly the sequence outlined below. For some themes and in some areas, it may be feasible -- and desirable -- to compress the three-year time-frame. For example, paragraph 3(a) of Annex II (Decision II/10) explicitly states that this work should not be impeded by lack of full scientific information and will incorporate the precautionary approach. Paragraph 3(c) stresses capacity-building and technology transfer. Therefore, some priority measures -- precautionary actions, capacity-building and technology transfer/development -- should occur in the first two years, and might be explicitly recommended in annual reports by the Executive Secretary to the SBSTTA.

**PHASE 1: Assessments.** Assessments will be initiated in Year 1 and will entail two parts: (a) a global assessment of marine and coastal biological diversity; and (b) targeted assessments, specific to the five thematic areas. A *preliminary* global assessment will be produced in Year 1 to provide an initial overview and a common base of information for work in the five thematic areas. The more targeted assessments related to each thematic area will also be initiated in Year 1. A major focus of Phase 1 will be identifying priority capacity-building and technology development/transfer needs and defining other priority areas to be targeted. The targeted assessments will be used as the basis for the complete global assessment to be finalised in Year 3.

**PHASE 2: Development of options** during Year 2. Options would be developed to address specific problems, with an emphasis on areas targeted as priorities in Phase 1 and on options for regional approaches.

**PHASE 3: Options-based global programme of action** during Year 3. This should include a well-defined and integrated set of options to form the basis of a coherent global programme of action -- to be considered by the COP and individual Parties -- to more fully implement the Jakarta Mandate. States would then select and arrange options according to national and regional priorities.

23. More detailed guidance for carrying out the Global Assessment -- including objectives and elements -- is provided in Annex 1. Detailed guidance for Phases 1 and 2 in the five thematic areas is provided in Annex 2. Annex 3 provides more detailed guidance for carrying out Phase 3 of this work plan.

## **6. METHODS FOR CARRYING OUT THIS WORK**

### 6.1 An Experimental Process

24. Decision II/10 has set in motion what might be described as an *experimental* process for conducting further work on marine and coastal biological diversity in that: (a) there are no obvious precedents; (b) the terms of reference are relatively general; and (c) the COP has provided significant latitude in the precise methods to be used. The mandate provided to the Executive Secretary, along with the modest budget allocation for convening meetings of experts drawn from the roster, reflects the apparent intention of the COP not to create an ambitious *institutional programme* under the Convention. (Indeed, there are already many institutions with well-developed programmes and activities covering the areas addressed in the Jakarta Mandate.) Rather, Decision II/10 seems to suggest that the Jakarta Mandate and its follow-up process provide a valuable holistic framework for supporting and guiding a wide range of activities by the "international community".



## 6.2 The Role of the Secretariat in Implementing the Jakarta Mandate

25. In light of the above, to carry out this work, the Executive Secretary could serve a *supporting and guiding role*, not only drawing upon the roster of experts (in conventional and innovative ways), but also drawing heavily upon a wide range of existing efforts worldwide, initiating new efforts, actively engaging the support of relevant institutions in implementing the Jakarta Mandate, and playing a lead role in facilitating effective coordination. The work plan would, in a sense, be carried out both within and outside the official Convention process by developing a new "international partnership" organised around implementing the Jakarta Mandate. International organizations and agreements that could be approached to join such a partnership might include, although would not be limited to: the UNCLOS; the various regional and international fisheries agreements; ICLARM; the Intergovernmental Oceanographic Commission; the International Maritime Organization; the World Conservation Union; the Commission on Sustainable Development; the UN Division of Ocean Affairs and the Law of the Sea; UNEP (Biodiversity, Ocean and Coastal Areas, and Regional Seas Programmes); UNESCO (Marine Science Division); UN Food and Agriculture Organization (Fisheries Division); and the International Coral Reef Initiative.

26. A set of specific steps that the Executive Secretary could take in this regard are listed below. Of particular importance, the Executive Secretary may wish to explore the interest in establishing a special *Jakarta Mandate Inter-Agency Coordination Mechanism*, which could entail regular communications, and perhaps annual meetings, involving international organizations and agencies most active in the marine and coastal biological diversity field.

27. Specific steps that could be taken by the Executive Secretary include, *inter alia*, to:

- (i) Develop a work plan, for consideration by the COP, that could, in a sense, be carried out within and outside the official Convention process by a new "international partnership" organised around implementing the Jakarta Mandate. This partnership could involve: experts drawn from the roster, the Secretariat, Parties and other countries, intergovernmental organizations (IGOs) and agreements, nongovernmental organizations (NGOs), indigenous groups, private-sector industry, local communities and other relevant bodies;
- (ii) Identify individual and organisational expertise in relation to specific elements of the work plan;
- (iii) Identify lead partner organizations/agencies prepared to take a leadership role in specific areas, including at least one lead partner for each major strand of activity;
- (iv) Identify and draw upon the activities and programmes of members of the international partnership that could contribute to specific elements of the work plan, especially to meet early capacity-building and technology transfer needs;
- (v) Organise additional activities by others (experts drawn from the roster, IGOs, governments, NGOs, etc.) that could contribute to specific elements of the work plan (including organising meetings and other activities by the experts drawn from the roster);
- (vi) Establish an effective mechanism to coordinate the above activities, as appropriate and as needed;
- (vii) Synthesise information from a broad range of inputs by members of the international partnership;

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and

- (viii) Coordinate with and engage the participation of international and national funding agencies interested in supporting implementation of the Jakarta Mandate.

28. The Executive Secretary may wish to invite international organisations and institutions with particular competence in specific areas to take lead roles through a special partnership arrangement with the Secretariat. Collaborating closely with the Executive Secretary, "lead partners" could help coordinate and carry out work in Phases 1 and 2.

### 6.3 Employing a Variety of Methods

29. A wide variety of methods can be employed by the Executive Secretary to carry out the work plan, including those outlined below. All work will be carried out in an open and transparent manner.

- (i) Organise the development of a new international partnership around implementing the Jakarta Mandate, and maintain effective communications with partners;
- (ii) Convene meetings of experts drawn from the roster, as described in paragraph 8(a) of Decision II/10;
- (iii) Facilitate conventional and more innovative communications among experts drawn from the roster, including conference calls, mailings, broadcast facsimiles, and (in particular) low-cost Internet communications (e.g., Internet conferences, list servers, and designated gopher and world wide web sites);
- (iv) Facilitate use of other electronic information tools (e.g., by identifying and updating key networks, gophers, web sites, databases, CD ROM resources such as ICLARM's FishBase and ReefBase, and ETI's Taxonomic CD ROMs, etc.);
- (v) Commission experts drawn from the roster to produce new studies and syntheses of existing work;
- (vi) Establish working groups of experts drawn from the roster on specific themes, with coordinating mechanisms as needed;

- (vii) Encourage, facilitate and draw upon the results of workshops, conferences, reports and analyses (on relevant topics) organised and undertaken by others;
- (viii) Monitor and draw upon existing international processes (e.g., FAO Fisheries Division, IOC, MAB, CITES, RAMSAR, U.N. Division of Ocean Affairs and the Law of the Sea, IUCN Commissions, regional fisheries agreements, UNEP Regional Seas Programmes, Species 2000, etc.);
- (ix) Organise supportive activities by Parties and non-party governments, IGOs, NGOs and others; and
- (x) Utilise the clearing-house mechanism of the Convention (including the newly established world wide web site) and national reports of parties.

#### 6.4 Initial Planning Meeting of Experts Drawn from the Roster (Late 1996 or Early 1997)

30. Given the wide scope of this work plan, an initial planning meeting of experts drawn from the roster, and others as appropriate, should be held to set in motion the six strands of activity, and to consider the most effective mechanisms for coordination and communications. As noted above, the Government of Indonesia has offered to host the first meeting of experts. The planning meeting could include, *inter alia*, the following objectives:

- (i) to identify "lead partners" prepared to take a leading role over the three-year period in each of the five thematic areas and in the global assessment process, and also to identify potential sources of support for the proposed medium term programme of work;
- (ii) to decide on a specific schedule of meetings and other activities (during 1997-99) for each of the five thematic areas and, for the global assessment, to assign immediate steps that should be taken;
- (iii) to more clearly define the concrete products of all five thematic areas and the global assessment; and
- (iv) to examine the need for a new *Jakarta Mandate Inter-Agency Coordination Mechanism*.

31. Prior to the initial planning meeting, the Executive Secretary will solicit expressions of interest and support from potential partner institutions in taking lead roles in specific areas.

#### 6.5 Annual Synthesis Reports by the Executive Secretary

32. The Executive Secretary will synthesise annually the variety of inputs provided in the five thematic areas and those related to the global assessment. These reports, which will summarise progress and which could include draft options for action, will be transmitted to the SBSTTA for review at its annual meetings. The SBSTTA will then prepare a report for consideration by the COP. The first report by the Executive Secretary will be prepared for the third meeting of the SBSTTA in 1997.

**ANNEX 1:****DETAILED GUIDANCE FOR CARRYING OUT A  
GLOBAL ASSESSMENT OF MARINE AND COASTAL BIODIVERSITY****1. INTRODUCTION**1.1 The Need for a Global Assessment

1. An extensive global assessment of the world's marine and coastal biological diversity has never been conducted. Various past assessments have covered specific areas of relevance. These include, among others: *The State of the Marine Environment* (U.N. Joint Group of Experts on the Scientific Aspects of Marine Pollution, 1990); *Global Biodiversity Assessment* (UNEP, 1995); *The Status of the World's Oceans and its Biodiversity* (McAllister, 1995); *A Global Representative System of Marine Protected Areas* (World Bank, IUCN, GBRMPA 1995); *The State of the World's Fisheries and Aquaculture* (U.N. FAO, periodic); *Biodiversity Data Sourcebook* (WCMC, 1994); *Global Marine Biological Diversity* (Norse, 1993); IUCN Red Lists; and *Global Biodiversity* (World Conservation Monitoring Centre, 1992).

2. An extensive global assessment, conducted on a periodic basis, is widely regarded as a critical requirement in developing and implementing an effective, long-term programme of action to address marine and coastal biological diversity loss worldwide. Such an assessment (in effect, a global overview) would be essential to: (a) identifying and targeting priorities; (b) identifying and formulating necessary actions; and (c) measuring progress in relation to specific objectives.

3. The scale of the world's oceans, the wide range of activities that impact marine and coastal biological diversity, and pragmatic funding and other constraints raise questions about the degree of comprehensiveness of a global assessment. A more detailed discussion about the difficulties and possibilities of producing assessments for the Convention is provided by the Secretariat in document UNEP/CBD/SBSTTA/2/2. Early planning activities, in light of the recommendations made by the SBSTTA on this matter under the provisional agenda item 3.1.1, should consider these questions and various options, including, *inter alia*, conducting periodic global assessments that cover a relatively limited set of targeted areas, and low-cost methods for data collection (e.g., extensive desk research to compile existing data and to synthesise it into more useful forms; drawing upon inputs from existing agreements, vessel operations and scientific programmes to collect broader data more systematically; and expanding environmental impact assessment procedures and monitoring efforts for MPA and IAM programmes).

1.2 Initiating the Assessment

4. A preliminary assessment, based upon syntheses of existing information, should be completed during the first year, and will be used as a common basis for work in the five thematic areas. A more comprehensive assessment should be completed by 1999, and submitted to the SBSTTA for review.

5. An initial planning meeting to discuss how to proceed with the global assessment (along with the other five thematic areas of work) is proposed for late 1996 or early 1997. Topics that could be discussed at that meeting include:

- (i) the scope of the global assessment;

- (ii) funding and other support;
- (iii) assignments for specific areas of work; and
- (iv) priority topics and products, along with time-frames, taking into account, in particular, the need to produce preliminary assessments during Year 1 as a common basis for work in the five thematic areas.

## 2. OBJECTIVE AND ELEMENTS OF THE GLOBAL ASSESSMENT

6. The primary objective is to assess, on a periodic basis, the general status and trends in marine and coastal biological diversity worldwide (including its major components), and to assess the major threats and measures being taken to address marine and coastal biological diversity loss. More specific elements or, alternatively, the focus of a global assessment of marine and coastal biological diversity, could include:

- (i) Assess critical capacity-building needs, particularly for least-developed countries and small island developing states, and identify the most time-urgent needs;
- (ii) Assess existing technologies and know how, identify the most urgent technology needs, identify the most important technologies for promoting the conservation and sustainable use of marine/coastal biological diversity, and assess the existing means for the transfer and development of these technologies;
- (iii) Assess the status of and trends in some of the key components of marine and coastal biological diversity. This assessment could cover the following:
  - components at genetic, species and especially ecosystem levels, including elaboration of their distribution, abundance, loss, degradation, integrity, and relative degree of threat (distinguishing regions at relevant scales);
  - major information gaps that need to be filled to implement an ecosystem management approach, in such areas as: data standards; taxonomy; species and community interactions; and ecosystem classification, functions, dynamics, processes, and impacts;
  - identification of biological diversity components of particular concern, including those of special importance in the context of Convention objectives that are under significant threat and/or are particularly vulnerable;
  - indicators of biological diversity status, including the utility of current indicators; and
  - ecosystem and biogeographic classification schemes, including a comparative analysis of existing schemes, assessments of current applications and the need to examine new global classification schemes;
- (iv) Identify the most critical ecosystem processes and functions that might be used to target priorities, nationally and regionally;
- (v) Identify and assess the relative scale and importance of the biological diversity impacts of major

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uses, activities, and ocean-wide anthropogenic stressors. Uses and activities should cover the most important direct agents and underlying causes of marine and coastal biological diversity loss, along with their actual and potential sustainability, to be used in targeting priorities nationally and regionally;

- (vi) Assess the effectiveness of past/current measures to address marine and coastal biological diversity loss and analyse major problems and obstacles. Measures to assess include, *inter alia*, establishment of MPAs, policy reforms, best management practices, EIAs, capacity-building, international financial assistance, etc.;
  - (vii) Assess the mandates of and activities under international agreements and institutions that affect marine and coastal biological diversity, and analyse the implications of the Jakarta Mandate;
  - (viii) Assess the general progress on integrating plans and strategies related to marine/coastal biological diversity within national development plans;
  - (ix) Assess specific potential applications of the Convention's clearing-house mechanism and national reporting requirements to promote effective implementation of the Jakarta Mandate;
  - (x) Assess marine genetic resources and related issues such as benefit sharing;
  - (xi) Assess socio-economic impacts of marine and coastal biological diversity loss in the context of Convention objectives and provisions;
  - (xii) Assess existing regional approaches and their effectiveness; and
  - (xiii) Assess deep-sea issues (i.e., outside national jurisdictions) in relation to the Convention.
7. The assessment will provide information on all major marine and coastal systems:
- (i) coastal systems (e.g., rocky, intertidal and subtidal; sandy shores and mudflats; estuaries and wetlands; coral reefs, mangroves and sea-grass areas; and subtidal shelves);
  - (ii) deep sea benthic systems (e.g., hydrothermal vents, submarine canyons, and sea mounts); and
  - (iii) open pelagic systems (e.g., major basins; enclosed and semi-enclosed seas; tropics, sub-tropics, temperate, and polar systems; etc.).

## ANNEX 2:

### DETAILED GUIDANCE FOR WORK ON THE FIVE THEMATIC AREAS

#### 1. INTRODUCTION

1. Targeted assessments and the development of options (Phases 1 and 2) will be conducted in the five thematic areas. The targeted assessments will draw from and feed into the global assessment of marine and coastal biological diversity. The development of options in the five thematic areas will be directly based on the results of the targeted assessments. Detailed guidance for conducting these activities is provided below.

2. The work outlined below will be undertaken during the period 1997-99. The products that are generated will be synthesised by the Executive Secretary and submitted, in the form of progress reports, to the SBSTTA on an annual basis. In accordance with Annex II of Decision II/10, a final report will be submitted in 1997 to the SBSTTA, containing a comprehensive set of options that could form the basis of recommendations by the SBSTTA for consideration by the COP. Earlier progress reports (in 1997 and 1998) could, as appropriate, include options for action in specific areas, such as urgent capacity-building and technology needs and precautionary measures.

3. The following general approaches will be applied in all five thematic areas, in accordance with paragraph 3 of Annex II (Decision II/10):

- (i) The work should not be impeded by the lack of full scientific information and will incorporate explicitly the precautionary approach;
- (ii) Recommendations should be made for capacity-building and technology transfer needs at all levels in the context of the issues being addressed;
- (iii) Knowledge of local and indigenous communities should be incorporated, as appropriate, as well as community- and user-based approaches; and
- (iv) Use should be made, as appropriate, of the clearing-house mechanism and national reports of Parties.

4. The activities described below will be undertaken through open and transparent processes, including opportunities for the public review of drafts.

#### 2. GUIDANCE FOR WORK ON THEME 1: INTEGRATED MARINE AND COASTAL AREA MANAGEMENT

##### 2.1 Goal

5. The goal of this activity is to provide the SBSTTA, through a process coordinated by the Executive Secretary, with: (a) advice; and (b) options for recommendations to the COP in the further elaboration of integrated marine and coastal area management as it is addressed in SBSTTA Recommendation I/8 (particularly paragraph 10), Decision II/10, and further inputs, if any, from the COP.

## 2.2 Phase 1: Assessments

6. Conduct a set of case studies to assess the effectiveness -- in the context of Convention objectives -- of different IAM approaches in a variety of settings. Analyse major obstacles and lessons learned from these experiences, covering, *inter alia*: the role of indigenous peoples and local communities; specific socio-economic and biological diversity needs; the effectiveness of existing guidelines for conducting environmental impact assessments of planned coastal and marine development activities, and for systematically monitoring and evaluating project impacts; and institutional, administrative, legal, jurisdictional, research and policy measures used to successfully initiate or implement IAM at various levels (community, district/province, national, and regional). Also, assess the effectiveness of -- and practical obstacles to -- efforts to integrate the objectives of major sectors impacting coastal areas, including, *inter alia*: construction, mining, logging, watershed management, human settlements, recreation, tourism, mangrove management, agriculture, shipping, and fisheries. In carrying out the above work, particular attention should be paid to the relative scale and importance of biological diversity impacts addressed through various approaches.
7. Assess specific obstacles to sustainable tourism planning and management.
8. Assess specific measures to prevent and mitigate the alteration, degradation and destruction of vital habitats, and to restore degraded habitats, bearing in mind the need to provide a balanced approach.
9. Assess the use of IAM as a practical tool for minimising biological diversity impacts from land-based activities, taking into account implementation of the UNEP Global Programme of Action for Protection of the Marine Environment from Land-Based Activities.
10. Assess the effectiveness of existing regional approaches to IAM and application of IAM practices within regional and international agreements and processes.

## 2.3 Phase 2: Development of Options

11. Based on Phase 1 assessments, develop options for the best IAM practices and priority measures (institutional, administrative, legal, jurisdictional, research and policy) to implement effective IAM at community, district/province, national, and regional levels. Options could cover, *inter alia*:
  - (i) activities to strengthen environmental impact assessment procedures;
  - (ii) activities to more effectively integrate the objectives of major sectors impacting coastal areas;
  - (iii) activities to promote sustainable tourism planning and management;
  - (iv) activities to prevent or minimise physical alteration, destruction and degradation of vital habitats, and to restore degraded habitats;
  - (v) activities to promote IAM as a practical tool for minimising biological diversity impacts from land-based activities;



- (vi) activities to enhance the role of indigenous peoples, local communities and user groups;
- (vii) activities to strengthen regional cooperation, including strengthening existing institutions and agreements, and options for possible new arrangements; and
- (viii) activities to establish "demonstration projects" to provide practical examples of successful IAM.

### **3. GUIDANCE FOR WORK ON THEME 2: MARINE AND COASTAL PROTECTED AREAS (MPAs)**

#### 3.1 Goal

12. The goal of this activity is to provide the SBSTTA, through a process coordinated by the Executive Secretary, (a) advice and (b) options for recommendations to the COP in the further elaboration of marine and coastal protected areas as it is addressed in SBSTTA Recommendation I/8 (particularly paragraph 11), Decision II/10, and further inputs, if any, from the COP.

#### 3.2 Phase 1: Assessments

13. Assess ecosystem, biogeography, scale and socio-economic considerations used in past MPA planning in various regions and settings, and assess the ecosystem and biogeographic coverage of existing MPA systems. Assess past efforts to establish and consolidate representative systems of MPAs, taking into account specific socio-economic needs and characteristics of regions. Based on these preliminary assessments and building upon past work: (a) identify gaps in coverage, on a priority basis, within existing MPA systems; (b) analyse MPA scale requirements for the maintenance of ecosystem functions and processes, as well as the maintenance of species and genetic diversity; (c) assess opportunities to more clearly define critical ecological functions/processes, vital habitats of living marine resources and socio-economic needs that could be used as criteria for MPA site selection; and (d) identify opportunities to enhance linkages and information exchange among MPA sites.

14. Assess the current and potential role of MPAs in the conservation and sustainable use of biological diversity, including the protection of ecosystem functions and processes (in addition to protecting specific species and stocks).

15. Assess the bio-economic contributions of MPAs to sustainable development. Also, assess analytical, research and monitoring tools to assess and capture the broader values of MPAs, and assess the effectiveness of existing efforts toward achieving sustainable financing for MPAs.

16. Conduct a set of case studies to assess the effectiveness of different MPA planning and management approaches in a variety of settings, and analyse lessons learned from these experiences. This could cover, *inter alia*:

- (i) different levels of participation of NGOs, local communities, indigenous peoples, and resource users;

- (i) efforts to integrate MPAs into broader, multiple-use, IAM frameworks; and
- (ii) major obstacles to effective planning and management (e.g., financing, training, staffing, technical capacities, etc.).

17. Assess the contributions of international agreements and institutions to the establishment and management of MPAs, including the provision of technical assistance, and identify international networks providing technical assistance in planning and management.

### 3.3 Phase 2: Development of Options

18. Based on Phase 1 assessments, develop options for:

- (i) defining critical criteria for MPA site selection and establishment;
- (ii) filling priority gaps in coverage within existing MPA systems, toward a more representative global system;
- (iii) enhancing linkages and information exchange among MPA sites, including strengthening regional information and technical assistance networks and use of the Convention clearing-house mechanism;
- (iv) more effectively capturing the broader values of MPAs, and incorporating these values in sustainable development planning and decision-making processes;
- (v) integrating MPAs into broader, multiple-use, IAM frameworks;
- (vi) achieving sustainable financing for MPAs;
- (vii) improving overall MPA management (covering, for example: financing; staffing and training needs; best management practices; new or strengthened partnerships; active involvement of local communities, indigenous peoples and resource users; and technical assistance and technology transfer and development); and

- (viii) promoting mutually supportive approaches by international institutions and processes in the areas of development and MPA management.

#### **4. GUIDANCE FOR WORK ON THEME 3: SUSTAINABLE USE OF COASTAL AND MARINE LIVING RESOURCES (CMLR)**

##### 4.1 Goal

19. The goal of this activity is to provide the SBSTTA, through a process coordinated by the Executive Secretary, with: (a) advice; and (b) options for recommendations to the COP in the further elaboration of sustainable use of coastal and marine living resources as it is addressed in SBSTTA Recommendation I/8 (particularly paragraphs 12 - 14), Decision II/10, and further inputs, if any, from the COP.

##### 4.2 Phase 1: Assessments

20. Assess general approaches to balancing the objectives of the Convention in the context of CMLR.
21. Assess impacts of extractive activities on biological diversity at the ecosystem, species, and genetic levels, and effectiveness of efforts to minimise impacts, covering, *inter alia*:
- (i) impacts of various fishing practices/gear/technologies (for artisanal and commercial fisheries), and effectiveness of efforts to determine geographic areas and ecosystems affected and to identify and promote low-impact and selective methods;
  - (ii) impacts of waste in fishing operations and related commerce activities, and effectiveness of efforts to reduce waste;
  - (iii) the relationships between biological diversity and global fishing capacity. Clarify the definition of and contributing factors to over-fishing in light of the Convention's objectives, including examination of the role of subsidies in the light of Article 11 and fisheries management considerations [in accordance with (vii) of Annex I to Decision II/10].
22. Assess the status and effectiveness of current efforts to incorporate ecosystem impacts and objectives, and the precautionary approach, into fisheries management planning and decision-making at the national, regional, and global level, taking into account the relationship between the provisions of the Convention and provisions of other agreements such as: UNCLOS, regional fisheries agreements, regional seas agreements and the FAO Code of Conduct for Responsible Fisheries. Identify practical obstacles to shifting from the present mono-species approach to modelling, assessment and management to an ecosystem, process-oriented approach.
23. Assess the current role of local communities, indigenous peoples and resource users in the conservation and management of CMLR, and lessons that might be drawn from existing examples.
24. Examine existing access regimes and assess opportunities for employing various types of access regulation as tools for implementing the Jakarta Mandate. This should include an analysis of the challenges in balancing regulation and equitable access, taking into account the particular needs of local communities and indigenous peoples.

25. Analyse obligations under other international agreements and activities under international programmes, and assess their potential for contributing to the Jakarta Mandate.

26. Assess the Technical Guidelines for implementing the FAO Code of Conduct for Responsible Fisheries in regard to their consistency with Convention objectives and provisions.

#### 4.3 Phase 2: Development of Options

27. Based on Phase 1 assessments, develop options for:

- (i) general approaches to balancing the objectives of the Convention in the context of CMLR;
- (ii) minimizing adverse biological diversity impacts of extractive activities, covering, *inter alia*, those areas described in paragraph 21 above;
- (iii) implementing priority measures to more effectively incorporate ecosystem impacts and objectives, and the precautionary approach, into fisheries management planning and decision-making at the national, regional and global level;
- (iv) enhancing the role of local communities, indigenous peoples and resource users in the conservation and management of CMLR; and
- (v) employing various types of access regulation, taking into account the need for equitable access and the particular needs of local communities and indigenous peoples.

28. In collaboration with other international instruments, agreements and programmes, develop options for enhancing their contributions to the Jakarta Mandate (particularly those listed in paragraph 22 above and covered in paragraph 13 of Decision II/10).

29. (If necessary), develop options for strengthening the Technical Guidelines for implementing the FAO Code of Conduct for Responsible Fisheries.

### **5. GUIDANCE FOR WORK ON THEME 4: MARICULTURE**

#### 5.1 Goal

30. The goal of this activity is to provide the SBSTTA, through a process coordinated by the Executive Secretary, with: (a) advice; and (b) options for recommendations to the COP in the further elaboration of

mariculture as it is addressed in SBSTTA Recommendation I/8 (particularly paragraph 15), Decision II/10, and further inputs, if any, from the COP.

### 5.2 Phase 1: Assessments

31. Assess the major biological diversity impacts to date and potential future impacts (both nationally and regionally) of mariculture operations, covering such areas as: habitat conversion (particularly vulnerable areas of high biological diversity value); interactions of farmed and wild animals; release of alien or living modified organisms; pollution inputs; introduction of diseases into the environment; and over-exploitation of wild larvae for seed stock.

32. Assess the general adequacy and effectiveness of existing guidelines, regulations and laws, and assess the need for new or strengthened guidelines or protocols at the international, regional and national levels.

33. In the context of Convention objectives and provisions, assess the potential socio-economic and biological diversity impacts of growth in mariculture -- including impacts on priority biological diversity components and local communities and indigenous peoples.

34. Assess a wide range of mariculture approaches (e.g., conventional approaches, integrated farming and polyculture systems, off-shore operations, multi-species operations, and use of native species for meeting local food demands) and identify the options most supportive of Convention objectives and provisions under various conditions.

35. Assess the technical feasibility of developing market-based incentives for sustainable mariculture, such as consumer product certification and labelling schemes for products that are derived from sustainable mariculture operations.

36. Assess the existing and potential role of specific technologies and techniques available for minimising adverse biological diversity impacts (e.g. feed improvements, filters, waste treatment, organism containment, etc.).

37. Assess the effectiveness of efforts to restore natural habitats and ecosystems at the conclusion of mariculture operations.

### 5.3 Phase 2: Development of Options

38. Based on Phase 1 assessments, develop options for:

- (i) (if necessary) new or strengthened guidelines or protocols to promote sustainable mariculture;
- (ii) promoting viable alternatives to conventional mariculture operations with significant adverse impacts on biological diversity (including alternative mariculture approaches and non-mariculture options);
- (iii) promoting the wider use of specific technologies and techniques for minimising adverse biological diversity impacts (such as those listed in paragraph 45 above), including transfer

and development of these technologies;

- (iv) promoting alternatives to the use in mariculture of alien species, products of selected breeding and living modified organisms resulting from modern biotechnology;
- (v) minimizing the conversion of particularly vulnerable areas and areas of high biological diversity value, and restoring natural habitats and ecosystems at the conclusion of mariculture operations;
- (vi) minimizing or eliminating the interactions of farmed and wild animals, pollution inputs, introductions of diseases into the environment, and over-exploitation of wild larvae for seed stock; and
- (vii) instituting market incentives that promote sustainable mariculture.

## **6. GUIDANCE FOR WORK ON THEME 5: ALIEN SPECIES**

### 6.1 Goal

39. The goal of this activity is to provide the SBSTTA, through a process coordinated by the Executive Secretary, with: (a) advice; and (b) options for recommendations to the COP in the further elaboration of alien species in marine and coastal environments as it is addressed in SBSTTA Recommendation I/8 (particularly paragraphs 16 - 19), Decision II/10, and further inputs, if any, from the COP.

### 6.2 Phase 1: Assessments

40. Assess mechanisms, processes, and pathways by which alien introductions occur. Assess the effectiveness of past measures to prevent, control or eradicate alien species, and analyse practical obstacles.

41. Assess major biological diversity impacts of alien introductions in a variety of settings, particularly long-term effects of species replacements on ecosystem functioning.

42. Assess the adequacy of existing international protocols and guidelines for preventing unintentional introductions, and the possible need for strengthening these or developing new protocols or guidelines.

43. Assess indigenous species alternatives to intentional introductions.

44. Assess opportunities for specific, technical contributions from the Convention to the IMO's effort to develop an annex to the MARPOL Convention regulating ballast water discharges.

### 6.3 Phase 2: Development of Options

45. Based on Phase 1 assessments, develop options for:

- (i) (if necessary), strengthening existing international protocols and guidelines for preventing unintentional introductions, and possibly developing new protocols or guidelines;

- (ii) strengthening environmental impact assessment procedures preceding intentional introductions (including options for developing an analytical model for risk assessment for use at national and regional levels);
  - (iii) improving public awareness of the possible ecosystem dangers arising from the release of ornamental and other alien species;
  - (iv) promulgating regulatory and technical measures to minimise ballast water introductions; and
  - (v) promoting viable indigenous species alternatives to intentional introductions.
46. Develop options for specific, technical contributions from the Convention to the IMO's effort to develop an annex to the MARPOL Convention regulating ballast water discharges.

**ANNEX 3:**

**ELEMENTS OF A FINAL REPORT OUTLINING OPTIONS FOR A DRAFT GLOBAL PROGRAMME OF ACTION**

1. In the third Phase of the work plan, the Executive Secretary will synthesise and organise the results of all activities and inputs into a final report outlining *Options for a Draft Global Programme of Action for Implementing the Jakarta Mandate*. The report, which will be produced in accordance with Paragraph 4(a) of Annex II (Decision II/10), will be submitted to the SBSTTA for its consideration at its meeting in 1999.

2. Elements of the final report could include, *inter alia*:

- (i) a detailed programme for meeting remaining capacity-building needs;
- (ii) a detailed programme for technology transfer and development;
- (iii) specific recommendations for new or strengthened institutional arrangements for advancing regional approaches to implementing the Jakarta Mandate;
- (iv) detailed guidelines, as needed, for national implementation of the Jakarta Mandate in the five thematic areas;
- (v) specific recommendations for programmes to help finance implementation of the Jakarta Mandate in priority areas, including possible recommendations regarding the need for new commitments of funding and new funding priority guidelines;
- (vi) quantitative and qualitative targets and timetables, if and as appropriate;
- (vii) detailed guidelines for Parties to report on their progress in addressing marine and coastal biological diversity loss, in accordance with the Convention's national reporting requirement;
- (viii) a detailed programme for applying the clearing-house mechanism to the area of marine and coastal biological diversity;
- (ix) a detailed programme of international research to fill critical information gaps;
- (x) specific recommendations on ways that international institutions can strengthen their contributions to the effective implementation of the Jakarta Mandate, and ways to effectively integrate the Jakarta Mandate into the implementation processes under other relevant international agreements;
- (xi) (if considered necessary) a specific recommendation on a continuing mechanism for promoting international collaboration and coordination around the Jakarta Mandate



implementation process (e.g., possibly involving the Secretariat and relevant international agreements and institutions);

- (xii) specific recommendations for needed action to address priority areas identified in Phases 1 and 2 (including general priorities for national and regional action in the following areas: institutional, management, legal, economic and policy measures);
- (xiii) specific recommendations on areas in which additional international action is needed to address the most important underlying causes of marine and coastal biological diversity loss;
- (xiv) specific recommendations to institutionalise a periodic, global assessment of marine and coastal biological diversity; and
- (xv) specific recommendations (if considered necessary) for a follow-up work plan.

#### ANNEX 4:

##### **Recommendation I/8:Scientific, technical and technological aspects of the conservation and sustainable use of coastal and marine biological diversity**

*Recalling* that the Conference of the Parties decided to address, at its second meeting, advice from the SBSTTA on the scientific, technical and technological aspects of the conservation and sustainable use of coastal and marine biological diversity;

*Recalling* further that, in its decision I/7 taken at its first meeting, the Conference of the Parties requested the SBSTTA to advise on how the Conference of the Parties could start the process of considering those aspects;

0. In order to advance this work the SBSTTA has before it a number of papers on marine and coastal biological diversity. From these papers and a detailed discussion in plenary, a number of key areas were selected for consideration. Included in the overall aspect of integrating coastal and marine area management were the more specific issues of sustainable use of living coastal and marine resources, mariculture and the control of alien organisms. Recommendations on all these issues are included below. The rationale for these recommendations, which was based on the documentation before the SBSTTA and, in particular, document UNEP/CBD/SBSTTA/1/8, is included in the Annex.

1. Although education, training and raising public awareness at the international and regional level were regarded as key delivery mechanisms, it was felt that, due to the insufficient time and complexity of issues in question, they should be comprehensively considered at the next session of the SBSTTA. The same session of the SBSTTA should also address the questions related to bio-prospecting on the deep sea bed, including access to its genetic resources.

2. The SBSTTA considers the conservation and sustainable use of marine and coastal biological diversity to be of such significance that it recommends the establishment of an ad hoc expert panel to provide advice on current issues. The expert panel shall be established for a period of three years and shall make an annual progress report. Issues which should be immediately reviewed by this panel are: the gaps in knowledge of the distribution and abundance of marine and coastal biological diversity; the particular needs for marine and coastal conservation and sustainable use of biological diversity in the context of threat alleviation, technology transfer; the linkages between the status of marine and coastal biological diversity and management of watersheds as well as pollution from marine vessels. It should also review the achievements of the scientific bodies associated with other international legal agreements, programmes and bodies dealing with aspects of marine and coastal biological diversity.

3. The SBSTTA intends to review this panel's conclusions at its fourth session in order to provide the fifth meeting of the Conference of the Parties with recommendations on this issue.

4. The following recommendations in this report for the Conference of the Parties are issues on conservation and sustainable use of marine and coastal biological diversity that the Conference of the Parties may wish to suggest to the fourth session of the Commission on Sustainable Development (CSD).

5. The SBSTTA recommends to the Conference of the Parties to forward the following statements to the next session of the CSD:

- (a) The Conference of the Parties endorses integrated marine and coastal area management as the most suitable framework for addressing human impacts on marine and coastal biological diversity and for promoting conservation and sustainable use of these biological diversity. Governments are encouraged to establish and/or strengthen, as appropriate, institutional, administrative, and legislative arrangements for the development of integrated management of marine and coastal ecosystems, plans and strategies for coastal and marine areas, and their integration within national development plans.
- (b) Research and monitoring are urgently needed to assess the status and trends of marine and coastal biological diversity, evaluate the success of management and conservation actions, and develop more effective management practices. Research and monitoring programmes should include biological, physical, social, cultural and economic studies, consistent with the time-frame commensurate with their objectives. They should be supported by information management, interpretation and dissemination. Resource owners, users and managers should be involved to the maximum extent possible.
- (c) Recognizing the need for global and regional action to address the loss of coastal and marine biological diversity, the Conference of the Parties recommends that the CSD call for the implementation of existing national and regional strategies to conserve coastal and marine biological diversity. The Conference of the Parties further recommends that the CSD recognize the International Coral Reef Initiative (ICRI) and other similar initiatives and endorse the ICRI Call to Action.
- (d) The Conference of the Parties endorses and highlights the inclusion of representative systems of marine and coastal protected areas within integrated area management, consistent with the objectives of the Convention on Biological Diversity.
6. The SBSTTA further recommends to the Conference of the Parties that it recommend to the CSD the need for the CSD to evaluate the world-wide over-capitalization of fishing fleets and its impact on marine and coastal biological diversity, and to review the role of national government subsidies in contributing to the over-capitalization.
7. The SBSTTA further recommends to the Conference of the Parties that it recommend to the CSD to highlight and urge the need for international cooperation to stem the adverse impacts of alien species introductions.
8. The following recommendations are recommended for the consideration of the second meeting of the Conference of the Parties.
9. On integrated marine and coastal area management, the SBSTTA recommends to:
- (a) Promote integrated marine and coastal area management as the framework for addressing impacts of land-based activities on marine and coastal biological diversity by, *inter alia*, minimizing or eliminating inputs of pollutants (including persistent organic and radioactive substances, excessive nutrients and sediments), in particular those arising from municipal waste, industrial effluents, deforestation, watershed degradation, unsustainable forms of agriculture and mining.
- (b) Promote integrated marine and coastal area management as the framework for addressing human impacts on marine and coastal biological diversity and encourage governments, communities, and users to develop and adopt integrated management measures, including:
- (i) land/habitat use capability analysis and planning for multiple use;

- (ii) environmentally sound land and coastal resource use practices based on precautionary ecosystem management approaches and best management practices; and
  - (iii) sustainable tourism planning and management.
- (c) Carry out environmental impact assessment of all major coastal and marine development activities with special attention to marine and coastal biological diversity, and taking into account cumulative impacts. Undertake systematic monitoring and evaluation of project impacts during implementation.
- (d) Address socio-economic needs of coastal communities in the planning and implementation of the marine and coastal area management.
- (e) Promote rapid appraisal techniques to improve the conservation and management of marine and coastal biological diversity.
- (f) Address impacts of land-based activities on marine and coastal biological diversity and identify methodologies and research to assess these impacts, in close cooperation with the implementation of the Global Programme of Action for the Protection of the Environment from Land-Based Activities, the major product of the UNEP Conference on Protection of the Marine Environment from Land-Based Activities.
- (g) Address impacts of desludging and pollution by maritime vessels on marine and coastal biological diversity, in particular in those countries which border international waterways, and adopt measures to mitigate adverse effects.
- (h) Consider the effectiveness of both area management and species management as tools to provide a balanced approach to use and conservation of marine and coastal biological diversity.
10. On marine and coastal protected areas the SBSTTA recommends to:
- (a) Based on consideration of biogeography and scale, and the objectives of the Convention on Biological Diversity, establish or consolidate representative systems of marine and coastal protected areas. Enhance linkages and information exchange among the sites.
  - (b) Promote research and monitoring of marine and coastal protected areas to assess their value for the conservation and sustainable management of biological diversity. Apply, as appropriate, rapid assessment techniques to identify and improve the management of protected areas.
  - (c) Explore means to incorporate marine and coastal protected areas within a broader framework for multiple use planning, as exemplified by UNESCO MAB Biosphere Reserves.
  - (d) Encourage the participation of local communities concerned and of resource users in the planning, management and conservation of coastal and marine areas.
  - (e) Consider all three levels of biological diversity, and factors determining their structure and function, in the development and implementation of management plans.

11. On sustainable use of coastal and marine living resources, the SBSTTA recommends to the Conference of the Parties that, as far as possible and appropriate, Parties should include in their national plans and programmes the following basic management elements ensuring that:

- (a) Management decisions are based on application of the precautionary approach;
- (b) Management decisions are based on the best available and sound scientific knowledge, research and information, taking into account ecosystem impacts;
- (c) Waste (such as waste through discard, spoilage, or mortality in the trade in living organisms) is reduced;
- (d) Local communities, users and indigenous people are involved in the conservation and management of resources;
- (e) National legislation ensuring the conservation and sustainable use of living marine and coastal resources in conformity with the Convention on Biological Diversity, the United Nations Convention on the Law of the Sea (UNCLOS) and Agenda 21, and that the provisions of the draft FAO Code of Conduct for Responsible Fisheries once approved, will be followed;
- (f) Existing international agreements addressing over-exploitation and conservation of marine and coastal resources, are acceded to, and fully implemented and enforced, especially the Agreement on Straddling and Highly Migratory Fish Stocks; and
- (g) Monitoring mechanism are used or established to assist sustainable management of marine and coastal living resources.

12. Regarding the management and technology tools recommended by FAO's Code of Conduct, the SBSTTA recommends that the Conference of the Parties support the efforts of FAO to provide advice on these tools, and request an opportunity for the input of the Conference of the Parties into the draft Code of Practice in order to ensure that the Code becomes fully consistent with the objectives and provisions of the Convention on Biological Diversity.

13. In addition, the SBSTTA recommends to the Conference of the Parties:

- (a) To identify constraints, including economic, for conversion of fishing gear and phase-out of fishing over-capacity, and the possibility of reducing subsidies for fisheries;
- (b) To offer the technical expertise of the SBSTTA to offer advice on the draft FAO Code of Conduct for Responsible Fisheries in order to ensure its consistency and conformity with the objectives and provisions of the Convention on Biological Diversity;
- (c) To take into account the ecosystem functions and processes identifying and targeting critical processes for the conservation and sustainable use of biological diversity;
- (d) To ask the FAO, or other appropriate bodies, to collate information on the availability of selective fishing gear and methods, possibly through the convening of an ad hoc intersessional panel on marine and coastal biological diversity; and
- (e) To urge the Parties not yet signatories to the Agreement on Straddling and Highly Migratory Fish Stocks to sign the Agreement.

14. On mariculture, the SBSTTA recommends to the Conference of the Parties:

- I. Parties should, as far as possible and as appropriate, implement environmentally sustainable mariculture practices, including the following:
    - (a) mariculture should be incorporated into integrated marine and coastal zone management plans, particularly taking into account the vulnerability of areas of high biological value;
    - (b) mariculture should be subject to prior environmental and social impact assessments (in accordance with Article 14) and regulations (Article 10) and should incorporate the participation and needs of local and indigenous communities;
    - (c) use of chemicals for therapeutics and other applications, high nutrient release and freshwater diversion should be minimized. Eutrophication should be avoided. Specific steps to achieve this include use of chemicals only in a prescribed and responsible manner, improvement in waste treatment, improvement in feed technology, and in promotion of integrated farming and polyculture;
    - (d) mariculture operations should not result in the over exploitation of natural stocks through harvesting of wild larvae;
    - (e) because of the difficulties of complete containment, introduction of alien species, products of selected breeding and living modified organisms resulting from modern biotechnology should be treated as an introduction into the wild. Therefore, adherence to international codes of practice such as the International Commission for Exploration of the Sea and the "Organisation Internationale Epizootique" should be a minimum requirement. Because of the potentially high risks, assessments should be rigorous, must correspond with the precautionary principle, and an appropriate monitoring programme must be put in place if introduction goes ahead. Preference should be given to the use of local species. Furthermore, development of technology to ensure a more complete containment should be encouraged;
    - (f) the conservation of genetic diversity in the wild stocks which farmed populations are derived should be an objective of overall management; and
    - (g) in areas where unsustainable mariculture operations have already substantially reduced or destroyed natural habitats and ecosystems, Parties should, where possible, undertake restoration programmes.
  - II. The clearing-house mechanism should be used to link databases and information networks to collect, share and disseminate data related to responsible mariculture measures.
  - III. The Conference of the Parties is invited to request the SBSTTA to monitor the development and provide input into the draft FAO Code of Conduct for Responsible Fisheries, in order to ensure that the Code is consistent with the objectives and provisions of the Convention on Biological Diversity.
  - IV. National reports (Article 25) and national biodiversity strategies and action plans (Article 6) should include an examination of mariculture operations within the jurisdiction of Parties, and steps to avoid significant adverse impacts on marine and coastal biological diversity in the above ways.
15. On alien species, the SBSTTA recommends to the second meeting of the Conference of the Parties that, consistent with Articles 8(h) and 8(l) of the Convention on Biological Diversity, the Parties should, as far as possible and appropriate:

I. Include in their national plans:

(a) Means to prevent, control, or eradicate, where possible, those alien species which threaten ecosystems, habitats or species (Article 8, paragraph (h)). These means might include the implementation of international protocols and guidelines (e.g. the International Maritime Organization (IMO) ballast water guidelines or the International Council for the Exploration of the Sea (ICES) Code of Practice).

(b) Conduct of environmental impact assessments, including risk assessment, prior to the intentional introduction of alien species (Article 14.1, paragraph (a)) and consult with neighbouring States before introducing alien species into shared waters. To minimize unintentional introductions, components of an assessment might include identification of primary pathways for unintentional introductions; identification of types of organisms with the greatest potential to be dangerous; mitigation techniques to minimize unintentional introductions; monitoring to identify the establishment of alien species; and development of means for elimination of hazardous alien species.

(c) Prior to intentional introduction, an assessment should be made of possible indigenous species alternatives, whether the introduced species can be adequately monitored (per Article 7, paragraph (c)), and whether adverse effects can be reversed within two human generations (as recommended by the draft FAO Code of Conduct for Responsible Fisheries). Additional assessment should include: (i) biological information on the species in its native habitat, including life stages and trophic level; (ii) results of previous introductions elsewhere; (iii) potential impact on indigenous species, through, e.g. predation and competition, or on ecosystem function; (iv) associated pathogens and parasites and ability to treat or screen for such organisms; (v) potential for habitat modification; and (vi) the potential for interbreeding with and deleterious genetic impacts on indigenous species/stocks. The assessment should take into account that organisms transferred from one ecosystem to another may not maintain the same characteristics in the new ecosystem.

(d) Conduct of environmental impact assessments prior to constructing canals linking coastal water bodies.

(e) Education of the general public to the possible dangers to the ecosystem that could result from the release of ornamental species and unauthorized releases of species for sport fisheries.

II. Be encouraged to conduct research (Article 12) where additional targeted studies would further the understanding of the impacts of alien species on *in-situ* conservation, including, for example:

(a) undertake ecological surveys and ballast discharge water surveys to help establish baseline data and level of risk associated with introductions through ballast water, including on the effects of introduction of harmful algal species through ballast water;

(b) undertake research on the long-term effects of species replacements due to introductions on ecosystem functioning.

16. Furthermore, the SBSTTA recommends that, consistent with Article 18 (Technical and scientific cooperation), the Conference of the Parties:

(a) Establish under the Clearing-house mechanism (CHM), or other data exchange mechanism, information on normal or pathogenic flora and parasites of aquatic species being introduced for mariculture or stocking programmes. Information to be included in the clearing-house would be on

infectious agents detected in indigenous, wild or alien cultured stocks, parasitic life-cycles, pathogen-specific methods of detection, and information on disease outbreaks and immune status in commercially shipped stocks. An existing mechanism for epizootics has been established in France (Organisation Internationale Epizootique);

(b) Establish, under the CHM, information from results of environmental impact assessments or similar assessments on introduced species to provide a means of evaluating effective and ineffective methodologies for preventing the introduction of, controlling, and eradicating alien species and minimizing their adverse effects.

17. Additional recommendations for future action by the Conference of the Parties:

(a) The SBSTTA suggests that the Conference of the Parties support efforts of the IMO to draft ballast water guidelines and request an opportunity for the input of the Conference of the Parties into those guidelines. The Conference of the Parties should ensure that the guidelines are consistent with the objectives and provisions of the Convention on Biological Diversity;

(b) The Conference of the Parties should contact relevant international bodies and instruments (for example, FAO) with a view to ensuring adequate controls of intentional introductions of alien or living modified organisms that have adverse effects on marine biological diversity.

18. Recommendations for the second meeting of the Conference of the Parties to consider for the medium-term work programme:

(a) Review the draft IMO ballast water guidelines to ensure that the guidelines are consistent with the objectives and provisions of the Convention on Biological Diversity;

(b) Review information provided by Parties and other sources on the assessment of alien species introduction to gain from past experience.



## Annex to Recommendation I/8

### I. INTEGRATED MARINE AND COASTAL AREA MANAGEMENT

#### Introduction

1. Coastal and marine areas contain some of the world's most diverse and productive systems. They include extensive areas of complex and specialized ecosystems, such as enclosed seas and tidal systems, estuaries, salt marshes, coral reefs, seagrass beds and mangroves that are sensitive to human activities, impacts and interventions.
2. Pressures on these systems are growing more intense. As rapid development and population growth continue in coastal areas, increasingly heavy demands will be placed on the natural resources and remaining natural habitats along the coasts. Unless corrective measures are taken, environmental degradation and over-exploitation will erode marine and coastal biological diversity, undermine productivity, and intensify conflicts over the increasingly scarce resources of the coastal zone.
3. The most important present and potential threats to marine and coastal biological diversity are well known:
  - (a) alteration and loss of habitat, including destruction of watersheds;
  - (b) chemical pollution and eutrophication, including from land-based activities;
  - (c) global climate change;
  - (d) invasions of alien species; and
  - (e) over-exploitation of living marine and coastal resources.
4. These threats cannot be treated separately, as ecosystem functions and processes are connected over wide distances. Singly, or in combination, these human perturbations can lead to structural and functional transformations of ecosystems.
5. Since threats will vary between regions and countries, depending on differences in ecological processes, level of availability of funding and economic and social activities, the Parties will need to tailor management regimes to the specific needs of each area. Integrated Marine and Coastal Area Management
6. Current sectoral approaches to the management of marine and coastal resources have generally not proven capable of conserving marine and coastal biological diversity. New models are needed to move planners toward multiple-use, systems-oriented modes of management, based on precautionary approaches and ecosystem management principles. Wide adoption and implementation of integrated marine and coastal area management are necessary for effective conservation and sustainable use of marine and coastal biological diversity.
7. Integrated marine and coastal area management is a participatory process for decision-making to prevent, control, or mitigate adverse impacts from human activities in the marine and coastal environment, and to contribute to the restoration of degraded coastal areas. It involves all stakeholders, including: decision makers in the public and private sectors; resource owners, managers and users; nongovernmental

organizations; and the general public. Community-based management approaches have proven particularly important. Integrated management programmes have already demonstrated their potential as an effective tool in developed and developing countries around the world.

8. On the regional level, integrated management of marine and coastal ecosystems could be promoted through the Large Marine Ecosystem approach to monitor and evaluate ecosystem health. Through ensuring the integrity and productivity of large-scale ecosystems, continuous benefits can be derived from the vast array of biological resources they contain.

### **Marine and Coastal Protected Areas**

9. Within the context of national and regional efforts to promote integrated marine and coastal area management, networks of marine and coastal protected areas, other conservation areas, and biosphere reserves, provide useful and important management tools for different levels of conservation, management and sustainable use of marine and coastal biological diversity and resources, consistent with customary international law.

## **II. SUSTAINABLE USE OF LIVING MARINE AND COASTAL RESOURCES**

10. Many of the world's fishery resources are in danger of depletion. The impacts of these activities can be direct and indirect. In addition, other living resources, for example mangroves, coral species and species amenable to bio-prospecting, are subject to or under threat of over-exploitation. The principal impact of over-exploitation is unsustainable removal of living marine and coastal resources. The most significant indirect impacts on biological diversity include habitat destruction, bycatch and ancillary impacts on interacting species or ecosystems. The overall goal is to achieve conservation and long-term sustainable use of living marine and coastal resources in a manner that respects both societal interests and the integrity of ecosystems.

## **III. MARICULTURE**

11. Mariculture production worldwide is growing at the rate of about 5 to 7 per cent annually. Currently, the main types of marine organisms being produced through mariculture include seaweeds, mussels, oysters, shrimps, prawns, salmon and other species of fish. Mariculture offers possibilities for sustainable protein-rich food production and for economic development of local communities. However, mariculture on an industrial scale may pose several threats to marine and coastal biological diversity due to, for example, wide-scale destruction and degradation of natural habitats, nutrients and antibiotics in mariculture wastes, accidental releases of alien or living modified organism resulting from modern biotechnology, transmission of diseases to wild stocks, and displacement of local and indigenous communities. Noting this situation, a precautionary approach should be applied to any mariculture development, in accordance with the preamble of the Convention on Biological Diversity.

## **IV. ALIEN SPECIES**

12. Alien components of biological diversity, including species, genetic strains, mixed genetic stock and living modified organisms, have the potential for significant, non-reversible, adverse impacts on marine and coastal biological diversity. Such impacts generally tend to be unpredictable. When they are adverse, they tend to homogenize and simplify biotic communities. Eradication of established alien species is difficult, if not

impossible. One means to mitigate damage due to these components is to make introductions subject to rigorous prior environmental impact assessments.

13. Alien species can be introduced inadvertently and intentionally. Non-intentional introductions primarily result from the discharge of ballast water, escapees from mariculture, organisms associated with species introduced intentionally, and unauthorized releases by the public. Furthermore, it should be recognized that introductions result from the engineering of waterways connecting previously separate bodies of water.

14. Intentional introductions occur primarily for mariculture production, including marine ranching, although an additional significant pathway is by release of hatchery-spawned organisms into the wild for the purpose of augmenting wild populations, generally for future capture in fisheries or in an attempt to enhance a population that is under threat. Particularly in the case of intentional introductions, alien species may include those resulting from the interbreeding of different genetic stocks or that have been genetically modified.

**Annex 5**

**Annex II to decision II/10**

**DRAFT PROGRAMME FOR FURTHER WORK ON MARINE  
AND COASTAL BIOLOGICAL DIVERSITY**

1. The Executive Secretary will use as the basis of work recommendation I/8 of the Subsidiary Body on Scientific, Technical and Technological Advice (contained in document UNEP/CBD/COP/2/5), this decision and further inputs, if any, from the Conference of the Parties.
2. The Executive Secretary should use the roster of experts on Marine and Coastal Biological diversity to address the following topics:
  - (a) Identify options for a pragmatic but comprehensive approach in addressing marine and coastal biological diversity on the basis of an ecosystems approach, including its components at the levels of species and genetic resources, distinguishing regions at relevant scales. Use the results from this activity in identifying the gaps in knowledge of the distribution and abundance of marine and coastal biological diversity;
  - (b) Identify the particular needs for conservation and sustainable use of marine and coastal biological diversity in the context of activities which will impact on marine resources;
  - (c) Review the mandates and activities under international agreements that affect marine and coastal biological diversity, and develop analyses that can be offered by the Conference of the Parties to the relevant institutions as to the implications of the Convention on Biological Diversity for these activities.
3. In addressing these issues, the following approaches should be applied:
  - (a) The work should not be impeded by the lack of full scientific information and will incorporate explicitly the precautionary approach in addressing conservation and sustainable use issues;
  - (b) The Executive Secretary may interact with a wide range of agencies and organizations competent in the aspects of marine and coastal biological diversity under deliberation to avoid unnecessary duplication and ensure effectiveness and cost-effectiveness;
  - (c) Recommendations should be made for scientific, technical and technological needs for capacity-building and technology transfer for the conservation and sustainable use of marine and coastal resources at the national, regional, and international levels in the context of the issue being addressed;
  - (d) The scientific, technical, and technological knowledge of local and indigenous communities should be incorporated, as appropriate, as well as community and user-based approaches, in the conservation and sustainable use of marine and coastal biological diversity;
  - (e) Use should be made, as appropriate, of the clearing-house mechanism and national reports of Parties.

4. The Executive Secretary shall produce, among other relevant documents, the following outputs:
  - (a) Options for the conservation and sustainable use of biological diversity and its components in the implementation of marine and coastal management and planning practices, including options for the development of integrated marine and coastal area management at regional and national levels;
  - (b) Annual reports to the Subsidiary Body on Scientific, Technical and Technological Advice, submitted 90 days prior to each meeting of that body. The first annual report will include a three-year work plan.