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MARINE AND COASTAL BIODIVERSITY: REVIEW, FURTHER ELABORATION AND REFINEMENT OF THE PROGRAMME OF WORK

Note by the Executive Secretary

EXECUTIVE SUMMARY

The programme of work on marine and coastal biological diversity, as approved by the Conference of the Parties in its decision IV/5, and further elaborated in decisions V/3 and VI/3, identifies important operational objectives and priority activities within the framework of five key programme elements reflecting global priorities. These programme elements are the implementation of integrated marine and coastal area management (IMCAM), marine and coastal living resources, marine and coastal protected areas (MCPAs), mariculture, and alien species and genotypes. The programme provides a framework for activities up to 2000, although it was designed to be applicable beyond that year. Because the initial three-year timeframe is now over, there is a need for SBSTTA to assess the status of implementation of the programme of work, to evaluate the need for its further development and refinement, and to propose ways in which such refinement can be undertaken in a systematic manner.

To assist SBSTTA in its work, the Executive Secretary has prepared the present review of the implementation of the programme of work. The implementation is assessed on the national, regional and global levels. National-level implementation has been evaluated based on the first and second national reports and the national biodiversity strategies and action plans. Global and regional-level implementation is evaluated based on the results of a questionnaire sent to relevant international organizations, as well as based on other available information. The assessment of implementation was difficult in many cases, due to incomplete available information.

The results of the evaluation show that though progress has been made in the implementation of the programme of work on marine and coastal biological diversity, much still remains to be done to achieve its full implementation, and to halt the decline in marine and coastal biological diversity globally. The level of implementation varies from relatively good for some programme elements, such as

* UNEP/CBD/SBSTTA/8/1.

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integrated marine and coastal area management (IMCAM), to relatively poor for others, such as alien species and genotypes. The elements of the programme of work still correspond to global priorities, but the operational objectives and specific activities listed under them are in need of elaboration. Such elaboration has now been undertaken on the issue of coral reefs, and can be further undertaken through the work of the ad hoc technical expert groups on marine and coastal protected areas and mariculture, as well as through priorities identified by the World Summit on Sustainable Development (WSSD), the Parties to the Convention, and international organizations.

An additional expert group on the topic integrated marine and coastal area management could be considered as appropriate for future refinements of the programme of work, particularly in terms of developing mechanisms to overcome obstacles to implementation of programme element 1 on IMCAM. The elaboration of programme element 5, on alien species and genotypes, could be carried out through the implementation of decision VI/23, paragraph 20. Any elaboration to the programme of work should also include enabling activities to overcome obstacles to implementation, as well as targets for monitoring performance. The elaboration of the programme of work could be undertaken by the Executive Secretary, in consultation with a liaison group, following recommendations of SBSTTA on the issue, and presented to the Conference of the Parties at its seventh meeting.

The programme of work should retain the flexibility to incorporate new priorities, such as those arising from the Plan of Implementation of the WSSD, or highlighted by the Conference of the Parties, as was done in the case of coral bleaching. Current new international priority areas, such as the conservation and sustainable use of biodiversity in areas beyond the limits of national jurisdiction, and the creation of a global representative network of marine and coastal protected areas should receive priority treatment.

Lastly, progress made in implementation of the programme of work should be reviewed periodically, and it is suggested that this be undertaken every six or ten years, taking into account the multi-year programme of work of the Conference of the Parties. It is also suggested that halting the loss of marine and coastal biological diversity globally be adopted as a goal of the programme of work, and that a target date of 2010 be considered to correspond with targets set out in the Strategic Plan of the Convention and the Plan of Implementation of the WSSD.

SUGGESTED RECOMMENDATIONS

SBSTTA may wish to recommend that the Conference of the Parties take note of the progress made in the implementation of the programme of work on the national, regional and global levels and of the facilitation of implementation undertaken by the Secretariat and, in its consideration of future refinements to the programme of work on marine and coastal biological diversity:

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

(b) Agree that some refinement to the programme of work is needed as a result of recent developments and new priorities, and that such refinement be undertaken by:

- (i) Incorporating the recommendations of the ad hoc technical expert groups on marine and coastal protected areas and on mariculture (UNEP/CBD/SBSTTA/8/9/Add.1 and 2) into programme elements 3 and 4 of the programme of work, respectively, and developing associated detailed work plans based on the expert group recommendations for consideration by the Conference of the Parties at its seventh meeting;

- (ii) Considering the need for an additional ad hoc technical expert group on the topic of integrated marine and coastal area management, for the elaboration of programme element 1;
 - (iii) Considering the elaboration of programme element 5 on invasive alien species within the framework of implementation of decision VI/23 of the Conference of the Parties and, in particular, its paragraph 20;
 - (iv) Considering the incorporation of the results of the World Summit on Sustainable Development as priority actions into each appropriate programme element of the programme of work;
 - (v) Considering the incorporation of enabling activities into the programme of work in order to overcome obstacles to its implementation, including actions to facilitate the formation of cooperative partnerships to enhance capacity and implementation;
 - (vi) Considering the setting of clear targets for the implementation of activities, taking into account the Plan of Implementation of the World Summit on Sustainable Development and the Strategic Plan of the Convention;
 - (vii) Considering setting a goal for the programme of work to halt the loss of marine and coastal biological diversity by the year 2010;
- (c) Request that the Executive Secretary, in collaboration with a liaison group, elaborate the programme of work on marine and coastal biological diversity, based on the guidance given in subparagraph (b) above, and present it for consideration of the Conference of the Parties at its seventh meeting;
- (d) Recommend that a regular and systematic review of the implementation of the programme of work on marine and coastal biological diversity be undertaken at six or ten year intervals, and that a thematic report will be produced to assist in this review, as necessary.

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I. BACKGROUND

2. The Parties to the Convention on Biological Diversity identified marine and coastal biological diversity as one of the early priority areas for the work of the Convention. This was reflected in the Ministerial Statement on the Implementation of the Convention on Biological Diversity, issued in conjunction with the second meeting of the Conference of the Parties, in 1995, which referred to the new global consensus on the importance of marine and coastal biodiversity, reaffirmed the critical need for the Conference of the Parties to address the conservation and sustainable use of marine and coastal biodiversity and urged Parties to initiate immediate action to implement the decisions of the Conference of the Parties on this issued.

3. At its fourth meeting, held in Bratislava in May 1998, the Conference of the Parties adopted decision IV/5, on the conservation and sustainable use of marine and coastal biological diversity, which included a multi-year programme of work for implementation at the national, regional and global levels. The programme focuses on five main programme areas, which reflect global priorities. These programme areas are:

- (a) Integrated marine and coastal area management;
- (b) Sustainable use of marine and coastal living resources;
- (c) Marine and coastal protected areas;
- (d) Mariculture; and
- (e) Alien species and genotypes.

4. The programme of work is based on several basic principles and approaches. These include the ecosystem approach, the precautionary approach, the importance of science, and the related knowledge of local and indigenous communities. The special circumstances of small island developing states are also recognized.

5. The programme of work was initially designed for a time period of three years. This time period came to conclusion in 2001. It is therefore timely to evaluate to what degree the programme of work has been implemented, whether the timeline for its implementation should be extended, and what refinements, if any, should be made to the programme of work.

II. IMPLEMENTATION OF THE PROGRAMME OF WORK

6. As stated in decision IV/5, the programme of work on marine and coastal biological diversity is implemented at the local, national, regional and global levels.

A. *National level implementation*

7. The primary implementation of the programme of work is at the national and local levels, and takes place through national strategies, plans and programmes that promote the conservation and sustainable use of marine and coastal biological diversity. Such plans and programmes are included in the national biodiversity strategies and action plans, drafted by Parties in accordance with Article 6 of the Convention.

8. The evaluation of national level implementation of the programme of work on marine and coastal biological diversity, presented in section III below, has been compiled on the basis of the information provided by Parties in their first and second national reports prepared pursuant to Article 26 of the Convention. National biodiversity strategies and action plans were also reviewed for supplementary information.

B. Regional and global-level implementation

9. Implementation at the regional level is undertaken by various regional organizations, arrangements and bodies, such as the regional seas conventions and action plans developed under the auspices of the United Nations Environment Programme (UNEP). At the global level, such international organizations as UNEP and its Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), the Food and Agriculture Organization of the United Nations (FAO), the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Maritime Organization (IMO), International Coral Reef Initiative (ICRI), the Global International Waters Assessment (GIWA) and other relevant bodies contribute to the implementation of the programme of work on marine and coastal biological diversity. Collaborative arrangements exist with other multilateral environmental agreements, such as the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention for the Conservation of Migratory Species of Wild Animals (CMS).

10. In order to assess global and regional level implementation, the Secretariat circulated a standardized questionnaire relating to the programme of work to international organizations, as well as to regional seas conventions and action plans. To date, 11 organizations have responded to the questionnaire. They are the Helsinki Commission (HELCOM), the UNESCO World Heritage Convention, UNDP-GEF, the Global Programme of Action for the Protection of the Marine Environment from Pollution from Land-based Activities (GPA), United Nations Division for Ocean Affairs and the Law of the Sea (UNDOALOS), the IOC/UNESCO, the UNESCO Man and Biosphere (MAB) programme, the World Conservation Monitoring Centre (UNEP-WCMC), World Fish Center (ICLARM), and the World Bank. Additional information has also been incorporated into the evaluation where it has been readily available. It should be noted that because the number of responding organizations is relatively small, the section on regional and global-level implementation is not meant to comprehensively cover every single activity implementing the programme of work. Rather, this evaluation provides a subset of representative activities that give an indication of the level of implementation.

C. Facilitation of implementation by the Secretariat

11. Although the Secretariat of the Convention does not itself implement the programme of work, it does have an important role in the promotion and overall coordination of implementation.

III. REVIEW OF IMPLEMENTATION

A. General considerations on the national level

12. Prior to considering each programme element separately, it is useful to review general considerations regarding the programme of work on the national level. In questionnaires used to develop the second national reports, Parties were asked whether their national strategies and action plans promote the conservation and sustainable use of marine and coastal biological diversity. Of the 71 Parties that responded to this question, 58% indicated that this was the case to a significant extent; 31% stated that this was the case to a limited extent. The results of these answers highlight the importance placed on the

conservation and sustainable use of marine and coastal biological diversity in national planning processes.

13. In considering the relative priority accorded to the implementation of the programme of work, 56% of the responding coastal countries gave it a high level of priority, 35% a medium level of priority, while 9% gave it a low priority. This indicates that most responding Parties consider the implementation of the work programme on marine and coastal biological diversity a high priority.

14. However, high priority does not necessarily correspond to good availability of resources. In fact, only 3 Parties (4%) indicated that they had good available resources to implement the programme of work. 19% cited adequate available resources, 63% indicated that the available resources were limiting, while 19% had severely limiting resources. This illustrates the importance of capacity building, technology transfer and financial resources to facilitate the implementation of the programme of work.

15. Furthermore, when countries were asked whether they had reviewed the programme of work on marine and coastal biological diversity, and identified priorities for national action in implementing it, only 13% of countries indicated that they had done so. Some 40% indicated the programme of work was under review, while 47% had not reviewed it. This suggests that, although a high importance is placed on conservation and sustainable use of marine and coastal biological diversity in national planning processes, this has not necessarily been translated into a prioritized implementation of the programme of work as adopted in decision IV/5.

B. Programme element 1: implementation of integrated marine and coastal area management (IMCAM)

1. Operational objective 1.1: to review the existing instruments relevant to IMCAM and their implication for the implementation of the Convention

National-level implementation

16. There is little direct information available from the national reports and national biodiversity strategies and action plans regarding the national-level implementation of this operational objective. However, national reports and information obtained from national focal points indicate that a large number of countries worldwide are engaged in IMCAM plans and programmes in one way or another, including through interdisciplinary studies. These plans and programmes vary in terms of priorities tackled, specific approaches to institutional development, and the degree and manner to which local communities are involved in the process.

Global and regional-level implementation and facilitation of implementation by the Secretariat

17. A review of existing instruments relevant to IMCAM and their implications on the Convention on Biological Diversity was undertaken by the Secretariat and presented to the Conference of the Parties at its fifth meeting (UNEP/CBD/COP/5/INF/6). The document reviewed existing global-level guidelines, as well as selected regional guidelines. The main conclusion reached in the analysis was that although the available instruments provide valuable guidance in the design, implementation and monitoring of IMCAM plans and programmes at the national level, they do not make enough specific reference to the biological diversity of the resources managed.

18. As a result of the review, the fifth meeting of the Conference of the Parties endorsed further work on developing guidelines for coastal areas, taking into account the ecosystem approach (decision V/3, paragraph 9); and encouraged SBSTTA, with the assistance of the Executive Secretary, to continue work on ecosystem evaluation and assessment, through, *inter alia*, guidelines on evaluation and indicators (decision V/3, paragraph 10).

19. In this context, the Government of the Netherlands has produced and submitted to the Secretariat a document containing an analysis of integrated marine and coastal area management in relation to the objectives of the Convention. The complete analysis was also presented to the sixth meeting of the Conference of the Parties. A summary of the review was presented to the Conference of the Parties as an information document (UNEP/CBD/COP/6/INF/32). In addition, several case-studies of IMCAM projects from different regions were presented at a side event at the sixth meeting of the Conference of the Parties, and are available through the Convention's clearing-house mechanism.

20. The next steps in this collaborative effort between the Secretariat, the Government of the Netherlands, the Global Programme of Action for the Protection of the Marine Environment from Pollution from Land-based Activities, and international agencies such as Wetlands International, are to produce a document in which existing IMCAM guidance and the objectives of the CBD are fully integrated. An Internet discussion forum utilizing the Convention's web site will provide major input for the document. The final product will be presented at the seventh meeting of the Conference of the Parties.

21. In addition, issues relating to IMCAM are a part of the joint work programme between the Convention on Biological Diversity and the Ramsar Convention. The Ramsar Convention has developed principles and guidelines for incorporating wetland issues into integrated coastal management. These guidelines will be made available to SBSTTA for its information and appropriate action.

2. *Operational objective 1.2: to promote the development and implementation of IMCAM at the local, national and regional level*

National-level implementation

22. According to the second national report, the majority of countries either have institutional, administrative and legislative arrangements in place for the development of IMCAM, or are in the process of developing them. Specifically, 28% of the responding countries had such arrangements in place, 22% were at advanced stages of development of such arrangements, while an additional 36% were at early stages of development. 14% of responding countries had no such arrangements in place.

23. A third of the responding countries have undertaken and/or exchanged information on demonstration projects as practical examples of integrated marine and coastal area management. These results highlight the availability of a wealth of case studies related to IMCAM, which could provide valuable information for those involved in the process of implementing IMCAM on the national level.

24. Based on the more qualitative descriptions in the first national reports and the national biodiversity strategies and action plans, research relating to marine and coastal ecosystems is reported as ongoing in all countries. Surveys, monitoring and mapping are also ongoing. Some countries emphasized their reliance on external donors and technology to undertake such assessments. Databases have rarely been developed yet, but are currently under development. The involvement of universities in these activities is almost always mentioned.

25. Regional and international co-operation was emphasized by the majority of countries in their national reports and national biodiversity strategies and action plans. Many countries stated participation in regional and/or international conventions directly or indirectly related to the protection of marine and coastal ecosystems. Such conventions include UNCLOS, Ramsar, regional seas conventions (under the UNEP regional seas programme), conventions related to land-based and ship pollution. The extent to which positive steps have been taken to implement convention-related commitments that have potential impacts for marine and coastal ecosystems is not clear. Bilateral cooperation involving capacity-building and technology transfer were also reported by a number of countries.

Global and regional level implementation

26. Based on the questionnaire sent out to selected international and regional organizations, a number current activities aim to implement integrated marine and coastal area management. Of the eleven organizations that responded to the questionnaire, seven are actively involved in implementing IMCAM. The other organizations, though not directly focused on the implementation of IMCAM, were involved in a number of activities in its support. When queried about specific activities in the programme of work, all 11 organizations reported that they promote the integration of biodiversity concerns into all socio-economic sectors impacting the marine and coastal environment, making this activity the most commonly engaged one internationally and regionally. Ten organizations either support the development of public education programmes or have such programmes of their own. Similarly, 10 organizations reported that they were involved in the protection of areas important for reproduction, such as spawning and nursery areas, while eight out of eleven reported promoting action to reduce and control sea-based sources of pollution. Eight organizations also reported that they provide information on relevant legal and institutional issues having regard to the United Nations Convention on the Law of the Sea. However, only four reported that they provide guidance on the wider application of local and traditional knowledge, indicating that this activity may require further attention in the future. The results, including examples of specific ongoing projects, are presented in more detail in an information document.

Facilitation of implementation by the Secretariat

27. The Secretariat is involved in facilitation of activities under operational objective 1.2. These activities include the promotion of incorporation of biodiversity concerns into all socio-economic sectors, as well as into a number of ongoing activities, such as the UNEP Global Marine Assessment and the work of the Global International Waters Assessment. The Secretariat collects information about processes implementing IMCAM, and promotes such processes, including promotion of protection for areas important for reproduction, and promotion of reduction in sea-based pollution. The Secretariat also posts and maintains related case studies on the Convention web site, provides advice on relevant legal and institutional issues, promotes public education and awareness programmes, and through its work on Article 8j, promotes maintenance and wider application of local and traditional knowledge. Through its joint work plan with the Ramsar Convention, the Secretariat also promotes the Ramsar Guidelines for establishing and strengthening local communities and indigenous peoples' participation in the management of wetlands.

3. *Operational objective 1.3: to develop guidelines for ecosystem evaluation and assessment, paying attention to the need to select indicators, including social and abiotic indicators, that distinguish between natural and human-induced effects*

National-level implementation

28. Although there is no specific question in the national reports regarding indicators of marine and coastal biological diversity, some information in this regard can be found in other related documents. An analysis of a questionnaire sent to the Parties by the Executive Secretary in May 2001 (see document UNEP/CBD/SBSTTA/7/12) provides a list of commonly used indicators. For marine and coastal biodiversity, these include the change in proportion of fish catches by species per specific season (39% of responding countries); water level and salinity (29%); threatened fish species as a percentage of total fish species known (29%); shoreline position (25%); and *Escherichia coli* counts and nutrient levels as percentage of baseline levels (25%). However, these indicators, with the possible exception of *E. coli* and nutrient levels, do not necessarily distinguish between natural and human-induced effects.

29. The document also notes that Parties have indicated that they are at different levels in the development of indicators for biodiversity monitoring. No Party has a complete list of biodiversity indicators, which suggests that the development of indicators is an ongoing process and is driven by national priorities.

Global and regional level implementation

30. According to the questionnaire, much activity is taking place globally and regionally relating to this operational objective. Activities relating to assessment, indicators and research and monitoring were common. Ten of the eleven responding organizations has either developed guidelines for ecosystem evaluation and assessment, or support the use of existing guidelines. Several organizations are also involved in the development of indicators for ecosystem evaluation and assessment. Ten out of the eleven were involved in undertaking or promoting research, monitoring and assessment of marine and coastal ecosystems and their living resources, while nine are involved in identifying key habitats for marine living resources

31. In addition to the responding organizations, a number of other assessment-related initiatives are also underway. These include the planned UNEP global marine assessment, which was enabled by Governing Council decision 21/13, and which will likely produce new information on an on-going basis; and the Global International Waters Assessment (GIWA), which is in the process of producing a comprehensive and integrated global assessment of international waters, including development of indicators. Some preliminary results and case studies are now available and are presented to SBSTTA as an information document. In addition, the Millennium Ecosystem Assessment will incorporate marine and coastal ecosystems.

Facilitation of implementation by the Secretariat

32. The Secretariat is promoting the development of indicators mainly through its programme on monitoring, indicators and assessment, and is exchanging information with relevant international organizations. In addition, the Secretariat has developed a memorandum of cooperation and a joint work plan with the Global International Waters Assessment (GIWA). GIWA considers the root causes of environmental change, including both human-induced and natural causes. Collaboration with the UNEP Global Marine Assessment is also being actively sought. The Secretariat has become a co-sponsor of the Global Coral Reef Monitoring Network, including its report *Status of the Coral Reefs of the World: 2002*. The Secretariat is maintaining a list of ongoing assessments, and is undertaking a pilot project on development of rapid assessment methods on marine and coastal biological diversity. The preliminary results of this project are expected to be presented to SBSTTA as an information document. Case-studies are available through the Convention's clearing-house mechanism. However, further, more innovative use of this tool should be promoted.

C. Programme element 2: marine and coastal living resources

1. *Operational objective 2.1: To promote ecosystem approaches to the sustainable use of marine and coastal living resources, including the identification of key variables or interactions, for the purpose of assessing and monitoring, first, components of biological diversity; second, the sustainable use of such components; and, third, ecosystem effects*

National-level implementation

33. According to the first and second national reports and the national biodiversity strategies and action plans, the ecosystem approach has not yet been adopted in the majority of countries, and the protection of marine living resources is partially dealt with under existing legislation such as fisheries

legislation, which is oriented towards species rather than habitat and ecosystem protection. Measures such as closed seasons and areas, the regulation of fishing gears and practices, licensing systems and quotas, and complete bans on harvest of certain species are being used. By-catch has been identified as one of the main threats to marine living resources, but countries indicate that only limited steps to prevent it have been taken to date. Restoration programmes for specific species were mentioned by at least one country in each regional group. Some countries also mentioned the relocation of fishing activities from shore to the high seas, and projects for the involvement of local communities in the management of marine and coastal living resources.

34. Programmes to enhance and improve knowledge on the genetic structure of local populations of marine species subjected to stock enhancement and/or sea-ranching activities are becoming more common, with approximately one third of responding countries implementing such programmes for some species. In many cases, programmes are currently under development, while only a few countries (6%) are implementing them for many species. The awareness of the importance of this work is high, as only 4% of responding countries did not perceive stock enhancement and/or sea ranching as a potential problem.

Global and regional level implementation

35. There is uniform support for the use of the ecosystem approach for sustainable management of marine and coastal resources. Each of the eleven responding organizations reported that they promote the ecosystem approach for this purpose. Many initiatives exist, particularly in the realm of fisheries management, with the Reykjavik Declaration for Responsible Fisheries in the Marine Ecosystem ^{1/} providing a notable example. Eight out of the eleven organizations reported that they are involved in the identification of components of ecosystems that are critical for the functioning of ecosystems, and key threats; while only four are carrying out studies on the effects of stock enhancement on marine and coastal biological diversity at the species and/or genetic levels.

Facilitation of implementation by the Secretariat

36. The Secretariat participated in the Reykjavik Conference on Responsible Fisheries in the Marine Environment and supported the application of the ecosystem approach in fisheries management. Activities relating to the ecosystem approach are also taking place under the cross-cutting issue on this topic.

37. Regarding development of collaborative links with relevant organizations and institutions, the Secretariat has developed memoranda of cooperation with the following organizations: The Global International Waters Assessment (2002), Wetlands International (2000), Ramsar Convention (1996), the Convention on Migratory Species (1996), the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) (2000), the World Bank (1997), Secretariat of CITES (1996), WCMC (1997), the Secretariat of the IOC of UNESCO (1997), UNESCO (1998), the Secretariat of the Cartagena Convention (1997), the Coordinating Unit of the Mediterranean Action Plan (2000), Secretariat of the Permanent Commission of the South Pacific (CPPS) (1998), IUCN (1997), Global Invasive Species Programme (GISP) (2001), Secretariat of DIVERSITAS (1997), and International Oceans Institute (IOI) (1999). In some cases, the memoranda of cooperation also include a joint work plan. Where such work plans do not exist, their development and implementation would be beneficial. The Secretariat also actively participates in the former Subcommittee on Ocean and Coastal Affairs (SOCA) of the Administrative Committee on Coordination, and is one of the partner organizations of the United Nations Atlas of the Oceans, a collaborative effort between member agencies of the SOCA. A memorandum of cooperation with the FAO regarding the Atlas was signed in 2001, and

^{1/} See <http://www.fao.org/docrep/meeting/004/Y2211e.htm>.

the Secretariat has since contributed materials to the Atlas, which is now on-line at <http://www.oceansatlas.org/index.jsp>.

38. Information, such as case studies and documents, are distributed through the Convention's clearinghouse mechanism (CHM). Additional innovative uses of the CHM could be incorporated in future enhancements to the work programme.

2. *Operational objective 2.2: to make available to the Parties information on marine and coastal genetic resources, including bioprospecting.*

Global and regional-level implementation

39. Five out of the eleven responding organizations have available information on marine and coastal genetic resources, including bioprospecting.

Facilitation of implementation by the Secretariat

40. A study on the relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea with regard to the conservation and sustainable use of genetic resources on the deep sea-bed is presented to SBSTTA at its eighth meeting (UNEP/CBD/SBSTTA/8/9/Add.3 and UNEP/CBD/SBSTTA/8/INF/3). This study was undertaken in collaboration with the United Nations Office for Ocean Affairs and Law of the Sea and the International Seabed Authority, and was originally called for in decision II/10 of the Conference of the Parties. An earlier study on bioprospecting of genetic resources of the deep sea-bed (UNEP/CBD/SBSTTA/2/15) has also been produced.

3. *Operational objective 2.3: To gather and assimilate information on, build capacity to mitigate the effects of, and to promote policy development and implementation strategies to address: (i) the biological and socio-economic consequences of physical degradation and destruction of tropical and cold-water coral-reef ecosystems, including identification and promotion of management practices, methodologies and policies to reduce and mitigate impacts upon marine and coastal biological diversity and to restore and rehabilitate damaged coral reef; and in particular (ii) the impacts of coral bleaching and related mortality on coral-reef ecosystems and the human communities which depend upon coral-reef services, including through financial and technical assistance ^{2/}*

National-level implementation

41. A number of countries are undertaking activities relating to coral reefs. Almost one third of the countries responding to the related question in the second national report reported that they were implementing the work plan on coral bleaching. This number included mainly coral-reef countries, but also a few non-coral-reef countries that fund such activities. One third of the responding countries also reported that they were implementing other measures in response to coral bleaching. Again, these countries were mainly those with coral reefs. It should also be noted that the coral-bleaching work plan is still new, and that many bleaching-related activities at the national level preceded the Convention's work plan on this topic.

42. The main activities in relation to coral reefs have been research and monitoring. Environmental impact assessments were mentioned by some countries as contributing to the coral reef programme of work. One country mentioned a specific coral-management plan, while another put forward

^{2/} This operational objective was added to the programme of work as a result of decisions V/3 and VI/3 of the Conference of the Parties.

rehabilitation of deteriorated coral reefs as one of the positive steps taken to implement the work programme on coral reefs. Most of the concerned countries mentioned participation in the International Coral Reef Initiative.

Global and regional-level implementation

43. A number of organizations are implementing measures in response to coral bleaching and the physical degradation and destruction of coral reefs. Further details may be found in the full report on the implementation of the work programme.

Facilitation of implementation by the Secretariat

44. In response to decision V/3, coral reefs have been integrated into programme element 2 and operational objective 2.3 of the programme of work. An Expert Consultation on Coral Bleaching was conducted prior to the fifth meeting of the Conference of the Parties in order to provide expert input into the process (see document UNEP/CBD/JM/Expert/2/3). A specific work plan on coral bleaching and elements of a work plan on physical degradation and destruction of coral reefs were developed by the Secretariat, based on input from the Expert Consultation and a liaison group on coral reefs. The work plans were endorsed by the Conference of the Parties in decision VI/3.

45. Subsequently, the Convention Secretariat became a co-sponsor of the Global Coral Reef Monitoring Network, and has also been invited to become a sponsor of Second International Tropical Marine Ecosystem Management Symposium (ITMEMS-2). The Executive Secretary provided a short endorsement to the report *Status of the Coral Reefs of the World 2002*, which is included in the foreword to that publication. Collaboration with the ICRI has been initiated, but continuing involvement in ICRI activities will be required in order to work towards the implementation of the coral reef work plans. Collaboration has been initiated with the International Coral Reef Action Network (ICRAN), the UNEP Coral Reef Unit, ICLARM, and the Intergovernmental Oceanographic Commission. The Secretariat also participated in the coral reef theme under that International Global Observing Strategy Partnership.

D. Programme element 3: marine and coastal protected areas

1. National level implementation

46. In their national reports and national biodiversity strategies and action plans, most countries mentioned the ongoing or planned establishment of marine and coastal protected areas, either as single units or through the development of systems and networks of such areas.

47. In most countries, the establishment and management of marine and coastal protected areas are provided for within the general framework of protected areas. In countries where marine protected areas exist either as marine parks, marine reserves, marine recreation parks, marine conservation parks, coastal parks, marine management areas, or marine sanctuaries, the main problem remains one of management. In this respect, several management options have been identified from the reports: governmental management, community-based management, management by non-governmental organizations, or private management. However, in many cases, the lack of proper management plans or legislation hinders management efforts. Some countries referred to traditional knowledge in relation to establishment and management of marine protected areas.

48. As the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas concluded, the available information regarding global coverage of marine and coastal protected areas is limited. However, the available information indicates that the present global network of marine and coastal protected areas is not sufficient to provide for the conservation and sustainable use of marine and coastal

resources. Improved information will be collected through the proposed WCMC initiative on creating a comprehensive global database on marine and coastal protected areas, as well as through the thematic reports on protected areas due by 30 March 2003.

2. *Global and regional-level implementation*

49. Many activities relating to marine and coastal protected areas are implemented on a regional scale. Much of this activity takes place as part of regional seas programmes and action plans, under which regional activity centres may administer marine and coastal protected areas. Examples of such arrangements include the Protocol Concerning Mediterranean Specially Protected Areas (SPA Protocol) and the Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific. The Specially Protected Areas and Wildlife (SPAW) Protocol in the Wider Caribbean Region also provides a framework for a number of activities related to marine and coastal protected areas.

50. According to the results from the questionnaire, international and regional organizations are undertaking a number of activities in support of programme element 3. Eight out of eleven organizations are undertaking or facilitating research and monitoring activities relating to MCPAs. Several organizations have also developed specific criteria for the establishment and management aspects of marine and coastal protected areas. A notable example of such criteria area contained in the document prepared by the IUCN World Commission on Protected Areas *Guidelines for Marine Protected Areas*.^{3/} However, only three of the eleven responding organizations are undertaking activities related to the effects of marine and coastal protected areas or closed areas on population size and dynamics, and more research may be needed in this regard.

3. *Facilitation of implementation by the Secretariat*

51. The Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas met twice, in Leigh, New Zealand, from 22 to 26 October 2001, and in Marahau, New Zealand, from 20 to 24 May 2002. The meetings were supported by the Governments of New Zealand and the United States of America, and the IUCN World Commission on Protected Areas. At its eighth meeting, SBSTTA will have before a summary report of the work of the Ad Hoc Technical Expert Group (UNEP/CBD/SBSTTA/8/9/Add.1), while the full report will be made available as an information document.

E. Programme element 4: mariculture (Operational objective: to assess the consequences of mariculture for marine and coastal biological diversity and promote techniques which minimize adverse impacts)

1. National-level implementation

52. Little information is available on national-level activities relating to mariculture, although the information reported in paragraph 34 above also relates to this programme element. According to the reports submitted to the Secretariat, mariculture pilot projects are under way in all regions. The vast majority of the countries where the mariculture industry was not yet well established stated their intention to further develop this sector. When mariculture is regulated, it generally falls under fisheries legislation. In some cases, a specific authority is dedicated to the topic.

2. Global and regional level implementation

^{3/} See http://wcpa.iucn.org/pubs/pdfs/mpa_guidelines.pdf.

53. Several organizations reported that they are involved in work aimed at assessing the consequences of mariculture on marine and coastal biodiversity. A comprehensive set of references relating to this work is provided in the full report of the Ad Hoc Technical Expert Group on Mariculture, to be circulated as an information document for the eighth meeting of SBSTTA.

54. Several organizations and international initiatives also promote techniques that minimize the adverse impacts of mariculture on marine and coastal biodiversity. Guidance in this regard is provided by the 2001 report by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) on planning and management for sustainable coastal aquaculture development. ^{4/} The FAO Code of Conduct on Responsible Fisheries, and in particular its Article 9, provides a set of voluntary principles that, if applied, ensure that potential social and environmental problems associated with aquaculture development are duly addressed and that aquaculture develops in a sustainable manner. FAO also reported the development of guidelines for best management practices.

3. Facilitation of implementation by the Secretariat

55. The Ad Hoc Technical Expert Group on Mariculture met in Rome from 1 to 5 July 2002. The meeting was held in collaboration with the FAO. At its eighth meeting, SBSTTA will have before a summary report of the work of the Ad Hoc Technical Expert Group (UNEP/CBD/SBSTTA/8/9/Add.1), while the full report will be made available as an information document.

F. Programme element 5: alien species and genotypes

- 1. Operational objective 5.1: to achieve better understanding of the causes of the introduction of alien species and genotypes and the impact of such introductions on biological diversity*

National-level implementation

56. The status of implementation of the programme element on alien species remains weak. Activities relating to the identification and monitoring of unintentionally and intentionally introduced species are ongoing in a majority of countries. In general, there is still a lack of knowledge regarding the impacts of such species. The main source of unintentional introductions is thought to be ship ballast water, although other sources such as hull fouling also contribute to the problem. In the 2000 thematic reports on invasive alien species, a number of other vectors for introductions were also recorded. These included aquarium releases or escapes; marine organisms in inter-tidal seaweed used as packing material; and introduced mariculture organisms, such as Pacific oysters.

57. The management of ballast water has attracted much attention, and research is ongoing on the means to prevent such introductions. International programmes, including the IMO GloBallast project, will provide valuable information and techniques to assist in the prevention of such introductions at the national level. The Guiding Principles for the Implementation of Article 8(h) adopted at the sixth meeting of the Conference of the Parties in decision VI/23 also provide an effective mechanism for prevention of introductions.

Global and regional level implementation

58. In addition to the databases referred to under operational objective 5.3 below, the IMO/IOC working group on ballast water maintains information on alien species and their introduction. UNDOALOS cited the reports of the Secretary-General to the General Assembly, which contain information on harmful aquatic organisms in ballast water.

^{4/} GESAMP Reports and Studies No. 68 (2001).

Facilitation of implementation by the Secretariat

59. The Executive Secretary has gathered information, data and case-studies on the subject and is disseminating this information through the clearing-house mechanism.^{5/} The case-studies were submitted by Parties in response to a request sent to national focal points in June 2000, as well as by the Global Invasive Species Programme (GISP) and the IMO.

2. *Operational objective 5.2: to identify gaps in existing or proposed legal instruments, guidelines and procedures to counteract the introduction of and adverse effects exerted by alien species and genotypes which threaten ecosystems, habitats or species, paying particular attention to transboundary effects; and to collect information on national and international actions to address these problems, with a view to prepare for the development of a scientifically-based global strategy for dealing with the prevention, control and eradication of those alien species which threaten marine and coastal ecosystems, habitats and species.*

National-level implementation

60. Although laws regulating the intentional introduction of invasive alien species have not yet been developed in a majority of countries, they are being contemplated. Where such regulations exist, there is usually either a ban on any intentional introduction or use of a permit system. Environmental impact assessments are rarely being utilized. Codes of conduct have been developed in some countries.

61. According to the notes by the Executive Secretary on review of efficiency and efficacy of existing measures (UNEP/CBD/SBSTTA/6/7) and on review of efficiency and efficacy of existing legal instruments (UNEP/CBD/SBSTTA/6/INF/5), both prepared for the sixth meeting of SBSTTA, aquatic systems are supported by fewer tools and capacities than their terrestrial counterparts. Some countries are making notable advances, however. In addition, many international instruments (such as the Guiding Principles for the Implementation of Article 8(h), the FAO Code of Conduct for Responsible Fisheries, the United Nations Convention on the Law of Sea, and regional seas protocols) can also provide support for national level implementation.

Global and regional-level implementation

62. A number of relevant international and regional legal instruments are cited in the previous paragraph. In addition, guidelines and procedures have either been developed or are under development by several organizations. Examples include the IMO's GloBallast project, which will be resulting in global guidelines on ballast water, and the FAO Guidelines on Responsible Use of Alien Species, developed in collaboration with the International Council for the Exploration of the Sea (ICES) and the American Fisheries Society.

Facilitation of implementation by the Secretariat

63. In addition to the Guiding Principles for the Implementation of Article 8(h), a number of documents have been produced as part of the work on the cross-cutting issues of invasive alien species, including the notes by the Executive Secretary on comprehensive review on the efficiency and efficacy of existing measures for their prevention, early detection, eradication and control (UNEP/CBD/SBSTTA/6/7), options for future work on invasive alien species (UNEP/CBD/SBSTTA/6/8), case-studies and country comments on invasive alien species (UNEP/CBD/SBSTTA/6/INF/2) and comprehensive review of activities for the prevention, early

^{5/} See <http://www.biodiv.org/programmes/cross-cutting/alien/case-studies.asp>.

detection, eradication and control of invasive alien species (UNEP/CBD/SBSTTA/6/INF/3), all of which were prepared for the in-depth discussion of the topic at the sixth meeting of SBSTTA.

64. In paragraph 7 of its decision VI/23, the Conference of the Parties urged IMO to complete the preparation of an international instrument to address the environmental damage caused by the introduction of harmful aquatic organisms in ballast water and to develop as a matter of urgency, mechanisms to minimize hull-fouling as an invasion pathway, and called on Governments and relevant organizations to act urgently to ensure full implementation. The Executive Secretary is continuing its collaboration with the IMO in this regard.

3. *Operational objective 5.3: to establish an incident list on introductions of alien species and genotypes through the national reporting process or any other appropriate means.*

National-level implementation

65. Several examples of national-level incident lists of introductions of alien species can be found in the national biodiversity strategies and action plans, indicating that many countries are compiling and maintaining such lists. As an example of national-level implementation, the Bishop Museum in Hawaii has developed a web-based database of all introduced alien species, including those in the marine environment. This database will be expanded to cover more of the Pacific region.

Global and regional-level implementation

66. UNEP WCMC has been compiling a database of invasive species. It contains nearly 1,000 cases across all taxonomic groups, and is global in its coverage, though major sources of data have biased coverage towards the Mediterranean, Baltic and Australia. Sources of data are varied and include peer-reviewed literature, discussion groups, Internet articles or stories taken from the popular press. In addition, the IUCN Species Survival Commission has developed a Global Invasive Species Database, accessible through their website. ^{6/}

67. FAO also maintains a database of introductions of aquatic species, which contains more than 3500 records. On the regional level, HELCOM Database on Alien Species in the Baltic Sea has resulted in a comprehensive web-based database on this topic. The IMO GloBallast project is establishing a collection of reports, monographs, papers and other publications on all aspects of ballast water management and invasive marine species as part of a global information resource centre. GISP is preparing a worldwide assessment of status of invasives, including those in the marine and coastal environments.

G. Programme element 6: general

1. *Operational objective 6.1: to assemble a database of initiatives on programme elements through a cooperative approach with relevant organizations and bodies, with special emphasis on integrated marine and coastal areas management.*

Facilitation of implementation by the Secretariat

68. Information on various initiatives have been collected by the Secretariat since the beginning of the programme of work on marine and coastal biological diversity. However, this information has not been compiled into an actual database. Compilation of such a database, and making it accessible through the clearing-house mechanism, should be undertaken in the future.

^{6/} <http://www.issg.org/database/welcome/>.

2. *Operational objective 6.2: To develop a database of experts from the roster and other sources, to be available for the development and implementation of specific elements of national policies on marine and coastal biological diversity, giving full recognition to the importance of taxonomy and following closely the development of the Global Taxonomy Initiative and in accordance with decision IV/1 D. Special consideration should be given to regional perspectives and the setting up of regional centers of taxonomic expertise, as well as the taxonomy efforts of other intergovernmental programmes, agencies and relevant institutions.*

Facilitation of implementation by the Secretariat

69. A roster of experts has been established and is being regularly updated and maintained. The roster is also accessible through the Convention website.

70. Collaboration with the Global Taxonomy Initiative is ongoing, and the GTI work plan approved by Conference of the Parties at its sixth meeting contains activities concerning marine and coastal biological diversity. These activities focus on the development of aids for identification and monitoring the introduction of novel marine organisms; and the development of taxonomic guides to key invertebrate organisms in mangrove systems to aid management of the continuum from natural to disturbed mangrove ecosystems. Both activities are currently under way, the first in collaboration with the IMO GloBallast project, and the second in collaboration with the International Society for Mangrove Ecology (ISME).

IV. GLOBAL STATUS OF MARINE AND COASTAL BIODIVERSITY

71. As is evident from the above, progress has been made in the implementation of the Convention's programme of work on marine and coastal biological diversity. However, the true test of the effectiveness of the programme of work is whether it has improved the state of marine and coastal biodiversity globally, or at least slowed the degradation of the marine environment and the loss of biodiversity.

72. The UNEP *Global Environmental Outlook (GEO) 3*, produced in 2002 states that:

“[P]rogress in protecting the marine environment over the past 30 years has generally been confined to relatively few, mostly developed countries, and to relatively few environmental issues. Overall, coastal and marine environmental degradation not only continues but has intensified. The major threats to the oceans that were recognized in 1972 – marine pollution, the overexploitation of living marine resources and coastal habitat loss – still exist despite national and international actions to address these problems.”

73. Recent results from the Global International Waters Assessment (GIWA) suggest that issues related to the destruction and degradation of ecosystems and to overfishing stand out as the areas showing the most severe impacts in most sub-regions (www.giwa.net). The severity of overfishing is confirmed by FAO fisheries statistics, as reflected in the 2002 *The State of the World's Fisheries and Aquaculture* report, which indicates that most of the world's fisheries are either overexploited or fully or heavily exploited. An additional serious problem is posed by introductions of invasive alien species, which are occurring around the world with increasing frequency. Finally, rapid global warming could have dramatic effects on the ocean, threatening valuable coastal ecosystems and the economic sectors that depend upon them. Other potential impacts are complex and currently poorly understood. However, according to the *Technical Paper on Climate Change*, prepared by the Intergovernmental Panel on Climate Change (IPCC) in 2001, it is expected that most coastal areas will experience increased levels of flooding, accelerated erosion, loss of wetlands and mangroves, and seawater intrusion into freshwater sources. The effects of global warming on coral reefs were demonstrated by the extensive coral

bleaching events during the intense El Niño in 1997 and 1998. The 1998 and 2000 *State of the Coral Reefs of the World* reports indicate that, while some coral reefs quickly recovered, others, particularly in the Indian Ocean, Southeast Asia and the far western Pacific, suffered significant mortality, which in some cases was more than 90 per cent. Additional, significant bleaching events have been documented during 2002.

74. The GESAMP 2001 report *A Sea of Troubles* states that the greatest of all threats to marine and coastal biodiversity comes from the destruction and alteration of habitats. According to *GEO-3*, the driving force for physical alteration of habitats is ill-planned, and accelerating, social and economic development in coastal areas, which itself results from such increasing pressures as population, urbanization and industrialization, maritime transport and tourism. As an example, GESAMP estimates that half of the world's wetlands and over half of the world's mangrove forests have been lost during the course of the twentieth century.

75. More is known about the status of large, easy-to-observe species than those that are small, cryptic or live in the deep sea. GESAMP and the *Global Biodiversity Outlook* report that species in the oceans are not becoming extinct at as high of a rate as those on land. However, marine species, such as monk seals, sea turtles and giant clams have been driven to local extinction because they have been overexploited and because their habitat has been destroyed. There is increasing evidence that many marine species are much less widely distributed, and therefore more vulnerable to extinction, than has been previously thought. However, the biodiversity of the marine realm is severely under-sampled and under-described. This is particularly true for remote environments such as the deep sea.

76. As noted in the 1997 GESAMP report *Marine Biodiversity: Patterns, Threats and Conservation Needs*, in general, marine species have higher genetic diversity than freshwater and terrestrial species. Populations with higher genetic diversity are more likely to have some individuals that can withstand environmental change and thereby pass on their genes to the next generation. On an ecological time scale (a few generations), stress reduces genetic diversity. Studies have indicated that long-term exposure to contaminants decreased genetic diversity and makes the remaining population more vulnerable to extinction. In addition, commercial fishing, concentrating on specific size ranges, has significantly altered the genetic composition of populations.

77. It is evident that while local success stories undoubtedly exist, marine and coastal biological diversity globally continues to decline. The problems commonly cited in global assessment reports are those currently addressed by the Convention's programme of work on marine and coastal biological diversity. Thus the challenge lies not so much revising the programme of work, but in its more effective implementation. The following section explores some of the obstacles that have been identified to the national-level implementation of the programme of work.

V. MAIN OBSTACLES TO THE IMPLEMENTATION OF THE PROGRAMME OF WORK

78. In the national biodiversity strategies and action plans and national reports submitted to the Secretariat, the Parties identified a number of constraints to the implementation of the programme of work on marine and coastal biological diversity. Commonly, these include the lack of implementation and enforcing capacities of legislation; issues relating to land ownership and tenure system; lack of knowledge of ecosystems and their functioning; lack of financial resources; ineffectiveness of institutional structures and overlapping mandates of institutions; inadequate regulatory framework; and inadequate infrastructures.

79. In working towards more effective implementation of the programme of work at the national level, it would seem beneficial to include in future revisions to the programme of work a series of

enabling activities designed to overcome reported major obstacles to implementation. Such activities, including, but not limited to, capacity-building and technology transfer, could be considered on the local, national, regional and global levels. Strengthening of implementation of the programme of work by all Parties and other Governments is imperative for achieving the conservation and sustainable use of marine and coastal biological diversity.

VI. POSSIBLE FUTURE DIRECTIONS OF THE PROGRAMME OF WORK

80. The status of implementation of the programme of work ranges from relatively good for programme elements such as the implementation of IMCAM, to relatively incomplete for programme elements such as invasive alien species and genotypes. However, even though most countries have taken steps towards implementing the programme of work on the national level, much more needs to be done in order to halt the global decline of marine and coastal biological diversity described in section IV above. The present section outlines possible future elaborations to the programme of work based on priorities arising from the World Summit on Sustainable Development, priorities identified by Parties to the Convention, and priorities identified by international organizations. The full report on progress in implementation of the programme of work provides additional detail about each of these priorities, including the text of the relevant paragraphs of the Plan of Implementation of the World Summit on Sustainable Development.

A. Programme element 1: implementation of integrated marine and coastal area management (IMCAM)

81. The issue of IMCAM is a complex one, encompassing aspects of all other programme elements, and as such presents the key to sustainable management of coastal resources. As indicated in section III above, the status of implementation of IMCAM is relatively good, though far from complete. At the present time, the existing instruments relevant to IMCAM have been reviewed, and the effort to produce biodiversity-relevant IMCAM guidance will be completed prior to the seventh meeting of the Conference of the Parties. The focus should therefore be on the actual implementation of IMCAM on the national level, and those enabling activities that can make this possible. In fact, the World Summit on Sustainable Development identified the promotion of integrated, multidisciplinary and multisectoral coastal and ocean management on the national level as a priority activity. Related to this, the World Summit stressed the development of proper coastal land-use and watershed planning, and the integration of marine and coastal areas management into key sectors.

82. Additional priorities for many Parties to the Convention were the implementation of the ecosystem approach, restoration and recovery of degraded habitats, adoption of environmental impact assessments for coastal development activities, and development of policies for sustainable tourism. International organizations also mentioned the prevention of land-based sources of pollution. Many of these priority areas are already addressed to some degree in the context of planned or ongoing work on cross-cutting issues under the Convention. However, their integration into the programme of work on marine and coastal biological diversity might be desirable.

83. In the context of IMCAM, the following two enabling activities were also presented as priorities:

(a) Provision of assistance to coastal States in developing ocean policies and mechanisms for integrated management;

(b) Updating and strengthening existing legislation as well as institutions dealing with marine and coastal issues, including the effective implementation of laws and regulations, and the strengthening and rationalizing of institutions.

84. Implementation of this programme element could be assisted by a thorough review of existing obstacles to the implementation of IMCAM at the national and regional levels, resulting in recommendations for future action, including specific enabling activities, and suggestions for mechanisms to support their undertaking. This review should take into account the work done by the ad hoc technical expert groups on marine and coastal protected areas and mariculture, decision VI/23 on invasive alien species, as well as the guidance on the Convention on Biological Diversity and IMCAM developed by the Government of the Netherlands. The work could be undertaken by an ad hoc technical expert group or a liaison group. Draft terms of reference for such a group are annexed to the present note.

B. Programme element 2: marine and coastal living resources

85. Programme element 2 on marine and coastal living resources has recently been expanded through the addition of coral reefs, and the associated work plans (decisions V/3 and VI/3). The implementation of these work plans should now be considered a priority, and should be accomplished in close collaboration with the International Coral Reef Initiative and other relevant organizations. Additionally, the role of the ecosystem approach, which is the theme of operational objective 2.1, is receiving increased international support. The World Summit called for the application of the ecosystem approach for sustainable management of marine and coastal living resources by 2010, and this target date could also be included in the Convention's programme of work. The 2001 Reykjavik Declaration on Responsible Fisheries supports the vital role of the ecosystem approach in sustainable management of fisheries resources. This Declaration, which was noted by the World Summit, could be considered as part of the Convention's approach towards sustainable fisheries, in addition to the FAO Code of Conduct for Responsible Fisheries. In fact, the World Summit also called for the implementation of the FAO Code of Conduct for Responsible Fisheries, giving due recognition to this important instrument.

86. Another issue receiving increased international attention is the maintenance of productivity and biodiversity in areas beyond national jurisdiction. The Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas also identified the high seas as a gap area in a global network of marine and coastal protected areas. As conveyed in the note by the Executive Secretary on the conservation and sustainable use of deep seabed genetic resources beyond the limits of national jurisdiction (UNEP/CBD/SBSTTA/8/9/Add.3), the current legal regime for addressing the maintenance of biodiversity in these areas is not effective, and the document makes recommendations for further action in this regard. Addressing the gap in the legal regime for the conservation and sustainable use of genetic resources in the deep seabed in areas outside of national jurisdiction is also a priority identified by international organizations. It is clear from the above, that this issue should receive further attention, and could be included as an activity under operational objective 2.2.

87. A number of other issues have been identified as priorities and could be highlighted under this operational objective. They are the elimination of destructive fishing practices; local community participation in the management of marine and coastal resources; and support for development of taxonomic databases on fisheries and species identification programmes. The second activity could be undertaken in collaboration with ongoing work on the implementation of Article 8(j), while the last activity could be undertaken in collaboration with the Global Taxonomy Initiative.

88. The following enabling activity was also identified:

“Provision of assistance to coastal States in coordinating policies and programmes at the regional and subregional level, aimed at the conservation and sustainable management of fishery resources, and implementation of integrated coastal management plans, including through the promotion of sustainable coastal and small-scale fishing activities, and where appropriate, the development of related infrastructure.”

89. Additional enabling activities, based on identified obstacles to the implementation of the programme of work, could be developed to help the implementation of this operational objective.

C. Programme element 3: marine and coastal protected areas

90. The results of the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas (UNEP/CBD/SBSTTA/8/9/Add.1) provide a clear way forward in the elaboration of this programme element. The Expert Group's recommendations can be used to expand both operational objective 3.1 on facilitation of research and monitoring projects, and operational objective 3.2 on criteria for the establishment and management of marine and coastal protected areas. The conclusions of the expert group are in complete agreement with the conclusions of World Summit on Sustainable Development, in that the priority for the future (and therefore the first item under this operational objective) should be the establishment of marine and coastal protected areas, and in particular the establishment of a representative network of such areas. The establishment of such networks also received a high degree of support both from the Parties and from international organizations. The World Summit identified the target date of 2012 for achieving the objective of a global representative network of marine and coastal protected areas, and the work of the Ad Hoc Technical Expert Group presents a practical definition of what such a network should look like, as well as a global goal for the Convention in this regard. The World Summit target date could also be adopted by the Convention on Biological Diversity.

91. An additional priority identified by the Parties to the Convention, and by international organizations, was the development of management plans and management capacity for already existing marine and coastal protected areas. This priority issue was also recognized by the Ad Hoc Technical Expert Group, although advice on the ways and means to improve management capacity was not a part of its terms of reference. The enhancement of management capacity could be included as a priority activity under this programme element, and also further addressed through the cross-cutting issue on protected areas.

D. Programme element 4: mariculture

92. The elaboration of programme element 4 can now also move forward based on the work of the Ad Hoc Technical Expert Group on Mariculture (UNEP/CBD/SBSTTA/8/9/Add.2 and in particular the recommendations and annex II). The priority activity is the implementation of sustainable mariculture, including small-scale mariculture, which was also supported by the World Summit, and the work of the Ad Hoc Technical Expert Group provides guidance in this regard. Both the World Summit and the Ad Hoc Technical Expert Group also supported the implementation of the FAO Code of Conduct for Responsible Fisheries as a tool for sustainable mariculture.

E. Programme element 5: alien species and genotypes

93. This programme element was identified as a priority by international organizations, and has also received much recent attention through the work of the Convention on the cross-cutting issue on invasive alien species. As a result, the implementation of programme element 5 could best be expanded in light of decision VI/23, paragraph 20, of the Conference of the Parties. In this paragraph, the Conference of the Parties invites IMO, GISP, FAO, and the Ramsar Convention to work together to develop an international cooperative initiative to address impediments to the management of marine alien species, particularly to address technical problems related to the identification and control of marine invasions. In addition, the development of new IMO regulations for ballast water management, expected to be adopted in 2003, will provide countries with practical means for controlling the spread of invasive alien species.

F. General considerations regarding enabling activities

94. The importance of capacity building, technology transfer, public education and awareness, training, and other such enabling activities is recognized by the World Summit, Parties and international organizations alike. To a great extent these activities are already covered in the existing programme of work, although their reiteration may be important. However, the area of technology transfer is not currently well covered, and should be included in the programme of work. Transferable technologies in this context might include anything from remote sensing and geographic information systems technologies used in the assessment of marine and coastal habitats, to biotechnologies used in mariculture.

95. One potentially efficient method of implementing the programme of work is through the formation of cooperative partnership between countries or between international and/or regional organizations. Such partnerships could, for example, provide capacity building and technology transfer in areas such as eradication of invasive alien species in the marine and coastal environment; or exploring new market options for mariculture species produced using methods that minimize biodiversity impacts.

96. Lastly, the programme of work cannot be implemented without sufficient funding being available. Traditionally, calls for funding in decisions of the Conference of the Parties have been addressed to the financial mechanism of the Convention, which has indeed provided much assistance to the implementation of the programme of work. Additional funding mechanisms should also be explored. Practical information about creative arrangements and tools for financing conservation and sustainable use of biodiversity should be made available for the Parties. This could also, for example, include small grants funds administered nationally, regionally or internationally, and aimed at implementation of the Convention and its specific programmes of work. As an example of such an arrangement, the Secretariat of the Cartagena Convention implements a small grants fund of up to \$8,000 to provide direct assistance to marine and coastal protected areas. The assistance can be used towards small equipment, development or updating of management plans, development of a financial plan, implementation of education and outreach activities, interpretation, trails, monitoring, specific training, documentation, implementation of sustainable community projects, personnel exchange, etc. Such small grants can be extremely effective in promoting implementation on the local or national level.

G. Monitoring progress in implementation of the programme of work

97. Progress in implementation of the programme of work will need to be reviewed periodically. It is suggested that such a review be undertaken every six years to correspond with every third meeting of the Conference of the Parties. This review should look at specific activities undertaken nationally, regionally and internationally. In order to facilitate future reviews, the questions relating to marine and coastal biodiversity in the draft third national report have been modified to better correspond to the programme elements in the programme of work, and thematic reports on the issue could be undertaken as needed. However, the actual effectiveness of the programme of work can only be judged based on the status of the world's marine and coastal biodiversity, which can be assessed through initiatives such as GIWA, GEO, or the planned UNEP Global Marine Assessment. The World Summit put forward a goal towards the development of national, regional and international programmes for halting the loss of marine biodiversity, including coral reefs and wetlands. Halting the loss of marine and coastal biodiversity could also be adopted as a general goal for the programme of work, and is consistent with the goal put forward in the Strategic Plan of the Convention. The target date in this context might be 2010.

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

1. The ad hoc technical expert group will undertake the following tasks:

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

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

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

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

B. *Duration of work*

2. The Ad Hoc Technical Expert Group on the implementation of IMCAM will start its work after the seventh meeting of the Conference of the Parties, and will complete it no later than the eleventh meeting of the Subsidiary Body.
