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STRATEGY AND ACTIVITIES IN THE FIELD OF COASTAL AND MARINE BIOLOGICAL DIVERSITY IN RELATION TO DECISION II/10 OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON BIOLOGICAL DIVERSITY

Note by the Intergovernmental Oceanographic Commission

INTRODUCTION

Through this document we wish to inform the Third Conference of the Parties to the Convention on Biological Diversity (COP-3) (Buenos Aires, Argentina, 4-15 November 1996) on how the Intergovernmental Oceanographic Commission (IOC) of UNESCO is responding to Decision II/10 on Conservation and Sustainable Use of Marine and Coastal Biological Diversity ("The Jakarta Mandate"), as adopted by COP-2 in Jakarta, Indonesia, November 1996.

The active participation of the IOC in the efforts of Member States to implement the Convention, as well as the timely development of an IOC framework strategy to assist the implementation process of the Convention, have allowed IOC to gradually associate itself with this important international legal instrument, as IOC already is with FCCC and UNCLOS. However, the relationship between IOC and the Convention on Biological Diversity has to be seen as a process, which is gradually developing, as we learn while proceedings.

THE IOC "RESPONSE" TO THE JAKARTA MANDATE

The institutional frameworks of IOC, CBD and the institutional framework for co-operation

IOC, through the IOC-NOAA *Ad Hoc* Consultation on Marine Biodiversity (3-5 May 1995), has reviewed its programmes with a view to developing actions to promote the conservation and sustainable use of marine biological diversity. This is particularly relevant to Paragraph 13 of Decision 10 of COP-2 - "The Jakarta Mandate". These actions constitute the IOC Marine Biodiversity Work Plan 1995-97, as developed by the IOC-NOAA Consultation and approved by the IOC Assembly at its Session in Paris (IOC-XVIII) in June 1995. In that occasion the IOC Assembly adopted Resolution XVIII-9 on Marine Biological Diversity, which is particularly relevant to Paragraph 13 of the Jakarta Mandate and especially to the part dealing with co-operation between the Convention on Biological Diversity and the international and regional bodies identified in the Paragraph. Both IOC Resolution XVIII-9 and the IOC Marine Biodiversity Work Plan are provided in Annex I.

Decision II/10 states that *"The Conference of the Parties (...) **supports** the recommendations in paragraphs 10-19 of* [SBSTTA] *recommendation I/8, subject to Annex I of the present decision* ["Additional conclusions on Recommendation I/8", adopted by SBSTTA at its First Meeting] *and its further elaboration by the Subsidiary Body on Scientific, Technical and Technological Advice and the Conference of the Parties."* Also, in Annex II to Decision II/10 "Draft programme for further work on marine and coastal biological diversity" it is stated that *"The Executive Secretary may interact with a wide range of agencies and organizations competent in the aspects of marine and coastal biodiversity under deliberation to avoid unnecessary duplication and ensure effectiveness and cost-effectiveness."*

The IOC "response" to the Jakarta Mandate

IOC may contribute, through its relevant programmes and activities as well through the expertise provided by relevant IOC Groups of Experts, to some of the issues identified in paragraphs 10-19 of SBSTTA Recommendation I/8 as well as co-operate with the CBD Secretariat with respect to some of the aspects of marine and coastal biodiversity, within IOC's mandates and competence.

The following possible thematic areas of co-operation between IOC and CBD are proposed:

* Promotion of integrated marine and coastal area management (ref.: SBSTTA Recommendation I/8, paragraph 10 (a) and (b));

* Promotion of rapid appraisal techniques (ref.: SBSTTA Recommendation I/8, paragraph 10 (e)) (within the IOC training courses);

* Addressing impacts of land-based activities on marine and coastal biological diversity and identifying methodologies and research to assess these impacts (ref.: SBSTTA Recommendation I/8, paragraph 10 (f));

* Provision of best available and sound scientific knowledge, research and information, taking into account ecosystem impact, on which to base management decisions ((ref.: SBSTTA Recommendation I/8, paragraph 12 (b));

* Use or establishment of monitoring mechanisms to assist sustainable management of marine and coastal living resources (ref.: SBSTTA Recommendation I/8, paragraph 12 (g));

* Provision of knowledge and information on ecosystem functions and processes identifying and

targeting critical processes for the conservation and sustainable use of biodiversity (ref.: SBSTTA Recommendation I/8, paragraph 14);

* Identification of types of alien species organisms with the greatest potential to be dangerous; monitoring to identify the establishment of alien species (ref.: SBSTTA Recommendation I/8, paragraph 16 I (b));

* Establishment of baseline data and level of risk associated with introductions through ballast water, including on the effects of introduction of harmful algal species through ballast waters (ref.: SBSTTA Recommendation I/8, paragraph 16 II (a)).

Decision II/10 states that *"The Conference of the Parties (...) **encourages the use of** integrated marine and coastal area management* [ICAM] *as the most suitable framework for addressing human impacts on marine and coastal biological diversity and for promoting conservation and sustainable use of this biodiversity."*

The provision on behalf of IOC of technical assistance in the field of ICAM are of relevance to the above. Examples are given by: (i) the recently held Workshop on Integrated Coastal Area Management in Madagascar (Nosy Be, 14-18 October 1996), jointly with the World Bank, Sida/SAREC (Sweden) and the National Office for the Environment (ONE); (ii) the foreseen publication (1997) on behalf of IOC/UNESCO of a book entitled "Integrated Coastal Management: Concepts and Practice". Workshops (including training ones) are also being organized in Comoros, China, Korea.

THE IOC STRATEGY IN THE FIELD OF MARINE AND COASTAL BIODIVERSITY

The IOC Marine Biodiversity Strategy, as developed by the IOC-NOAA *Ad Hoc* Expert Consultation on Marine Biodiversity (hereafter called 'the Expert Consultation), focuses mainly on building local human capacity, e.g., through the organization of training courses on a regional basis and field studies on a pilot scale. The Strategy recognizes the importance of research efforts within as well as besides the Convention, such as the DIVERSITAS Programme, which is co-sponsored by UNESCO, and with which IOC is being associated through the organization of joint activities. In addition to research and human capacity building, an important element is represented by considerations in relation to monitoring biological diversity.

Research

Concerning research, the Expert Consultation recognized the increasing importance of DIVERSITAS as a comprehensive international research programme on biodiversity. This research exercise as well as other related efforts, such as the Programme on Global Investigation on Pollution in the Marine Environment (GIPME) and the World Climate Research Programme (WCRP), could also provide support to the implementation of the Convention on Biological Diversity.

The research activities within the IOC Marine Biodiversity Work Plan include two activities of particular importance:

* The identification of parameters and development of methodologies for the assessment of coastal and marine biodiversity and the monitoring of its changes (including low-technology

methodologies);

* The identification of a global network of representative ecosystems for future projects for the integration of baseline inventories, research activities, methods for monitoring (including low-technology approaches), comprehensive management for sustainable use and conservation of marine biodiversity, and community level education (in collaboration with UNESCO-MAB).

The need for an integrated approach in research related to marine biodiversity, according to the priority research areas established within the Convention framework, led to the elaboration within UNESCO of actions jointly undertaken by the Intergovernmental Oceanographic Commission and the Division of Ecological Sciences, with respect to coastal area biodiversity problems. These activities focus on:

* The role of soil and sediments for benthic systems supporting biodiversity in the coastal area (in co-operation with DIVERSITAS);

* The ecological role and the resilience of seagrass beds, mangroves and seaweed systems;

* The assessment of impacts on coral reefs of marine changes and factors, through the Global Coral Reef Monitoring Network, in co-ordination with the International Coral Reef Initiative;

* The assistance of UNESCO to its Member States as well as to the Parties to the Convention on Biological Diversity in the development of nationally-driven projects within the context of the Convention on Biological Diversity, with a view to developing agreed methods for the compilation of biodiversity inventories, with a solid scientific basis;

* Methodologies for the handling of information and data concerning biodiversity.

Other research activities in the context of the Convention in which IOC could assist are mentioned on page 2, within "The IOC 'response' to the Jakarta Mandate".

Monitoring

Monitoring is specifically called for in Article 7 of the Convention on Biological Diversity and its Annex I.

The lack of specific monitoring systems, which would focus not only on biological parameters but above all on those relevant to assess biodiversity, represents a major problem. It is expected that the Global Ocean Observing System (GOOS) (of IOC, WMO, UNEP and ICSU) and, in particular, its Module on Living Marine Resources (GOOS-LMR) may be useful in this regard. GOOS is intended to monitor the world ocean, including by using existing monitoring stations and by helping establish, through co-operative actions among countries, monitoring facilities where they do not yet exist. GOOS' modules on climate, health of the ocean, coastal zone, ocean and marine meteorological services and living marine resources *inter alia* aim at a global coverage from a topic viewpoint. The LMR Module is presently under design, including through a joint GOOS-Global Ocean Ecosystems Dynamics (GLOBEC, of IGBP) *ad hoc* group of experts. As it has already been done for the other activities under GOOS that have been implemented up to the present, particular care will be given to the standardization of methodologies, for the sake of data exchange and comparison. The data obtained should be such so that they can provide useful information for the management of coastal and marine living resources and

for the conservation and sustainable use of coastal and marine biodiversity.

Capacity building

The need to build capacity in the field of coastal and marine biodiversity was one of the major recommendations of the Expert Consultation. The IOC strategy in the field of marine biodiversity includes training as a major element. This requires international co-operation, especially aimed at building capacity in the field of marine biodiversity. The Strategy stresses that the most pressing capacity building goal could be achieved *inter alia* through short-term training in para-taxonomy, short-term training in taxonomy. However, in the long-term high-level education in taxonomy is also required.

Capacity building and provision of assistance at the national level is imperative because, while different organizations are coming together well, which reflects the intergovernmental and international nature of the Convention, it is on the development of successful nationally-driven projects that the full implementation of the Convention's objectives depends, namely the sustainable use, equitable sharing and conservation of marine genetic resources.

Training in coastal and marine taxonomy is provided by IOC to its Member States on a regional rotating basis. Those training courses and other kind of activities (workshops, training coupled with ground-truthing activities) are also available to scientists and technicians from developing countries that are not members of IOC. An example in this respect is given by the numerous training activities on phyto-plankton species within the Harmful Algal Bloom Programme; training is also available in indirectly biodiversity-related fields like marine pollution (e.g. on nutrient analysis) and climate variability (e.g. on sea-level measurement techniques).

As part of the present efforts which are undertaken individually or through joint actions by international organizations, IOC is also elaborating tools for nomenclature and classification of marine species and related training to assist taxonomists' efforts to fulfil the commitment the Parties to the Convention have made towards compiling national biodiversity inventories. This is especially relevant to those countries which have difficulties in accessing taxonomic reference texts. The major product in this respect is represented by the UNESCO-IOC Register of Marine Organisms (URMO), a description of which is provided in the Annex II to this document.

CO-OPERATION

Co-operation between IOC and CBD and the two respective Secretariats

Inputs to the activities of the Convention have been forwarded by IOC through its participation at COP-1, SBSTTA-1, COP-2, SBSTTA-2 (chronologically).

The IOC Secretariat has regularly informed the CBD Secretariat about its activities related to coastal and marine biodiversity as well as on the status of their implementation. The two Secretariats have corresponded on a number of technical issues related to coastal and marine biodiversity.

IOC Resolution XVIII-9 acknowledges the spirit of co-operation between IOC and CBD. This is in line with the willingness expressed by COP-2 as to co-operation between CBD and other biodiversity-related organizations (ref.: Decision II/10, paragraph 13). UNESCO and its Intergovernmental Oceanographic Commission are specifically mentioned in the list of international and regional bodies invited to co-operate with the Convention and we are responding. Decision II/13 of COP-2 also calls for

enhanced cooperation with relevant international biodiversity-related bodies.

IOC Resolution XVIII-9 and Decision II/10 of the Second Conference of the Parties to the Convention provide a very important basis for co-operation between the two Organizations in their whole but also between the two respective Secretariats. The CBD Secretariat is in the process of elaborating general modalities for co-operation with other relevant international biodiversity-related bodies, and IOC has sent the CBD Executive Secretary proposed elements from IOC's perspective, to be considered for the formalization of the co-operation between the two Secretariats, possibly through a Memorandum of Understanding. A central element would be coordination, so as to ensure that the IOC actions can be of most. Focus should be put on critical marine and coastal habitats as well as integrated coastal area management. The two Secretariats are now in the process of elaborating elements and modalities for further co-operation. Additional elements might arise during COP-3, which would be considered in the light of the above-mentioned co-operation agreement.

Co-operation with other entities

IOC has always been most willing to inform the whole biodiversity community with respect to its coastal and marine biodiversity activities and to exchange views with other institutions . This has been achieved up to the present quite successfully, including through IOC's participation in the various sessions of the Global Biodiversity Forum. In those occasions, IOC has regularly invited the whole biodiversity community to take knowledge of, and familiarize with, its activities in the field of coastal and marine biodiversity. This is very important to guarantee transparency in the implementation process of the Convention on Biological Diversity. Information is regularly provided in updated form on the IOC Homepage.

Targeted co-operation in the field of coastal and marine biodiversity is going on between IOC and the following organizations/programmes: UNESCO's Man and Biosphere Programme; the DIVERSITAS Programme; GESAMP; IUCN; and, other international biodiversity-related NGOs (such as the World Research Institute).

ANNEX I

IOC RESOLUTION XVIII-9 ON MARINE BIODIVERSITY
(as adopted by the IOC Assembly at its Eighteenth Session, Paris, June 1995)

The Intergovernmental Oceanographic Commission,

Recognizing the great importance of conserving marine biodiversity, including the need for research in the subject area,

Taking into account that successful implementation of the Convention on Biological Diversity will address the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources,

Taking into account the United Nations Convention on the Law of the Sea,

Noting that the Convention on Biological Diversity calls on the assistance, where appropriate, of competent international organizations to the Contracting Parties to the Convention, for its implementation,

Noting also that the First Meeting of the Conference of the Parties to the Convention on Biological Diversity adopted decision I/7 pertaining to the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), which, *inter alia*, states that at its first ordinary meeting, SBSTTA shall consider its *modus* operandi as well as the need to draw on relevant existing institutional structures; and, that the provisional agenda for SBSTTA's first ordinary meeting, as reported in decision I/7, will *inter alia* deal with provision of advice on the scientific, technical and technological aspects of the conservation and sustainable use of coastal and marine biological diversity (priority item),

Emphasizing the importance of re-evaluating the IOC existing programmes and activities to review the scope for enhancing marine biodiversity study as an IOC activity,

Recognizing that IOC has a substantial role to play in providing the Conference of the Parties to the Convention on Biological Diversity, through its Subsidiary Body on Scientific, Technical and Technological Advice, with advice on scientific issues concerning marine biodiversity,

Decides to continue the *Ad Hoc* Consultation of Experts on Marine Biodiversity as needed, drawing on other relevant programme activities of the IOC for implementation of its recommendations;

Instructs the Executive Secretary IOC to communicate with the Chair of SBSTTA on: the submission on behalf of IOC to the First meeting of SBSTTA of the report of the IOC-NOAA *Ad Hoc* Consultation on Marine Biodiversity; and, the identification of specific needs and requirements of SBSTTA for scientific input which can be provided by IOC;

Instructs the Executive Secretary IOC to interact with the International Sea-Bed Authority on matters of the effects of possible future exploitation of sea-bed resources and dumping on marine biodiversity, as well as to discuss the possibility for IOC to provide scientific input to the International Sea Bed Authority in this respect;

Instructs also the Executive Secretary IOC to strengthen links with the Man and Biosphere Programme in order to develop joint activities in the field of sustainable use and conservation of marine biodiversity;

Urges Member States to undertake efforts at the national and regional levels to compile inventories of their marine flora and fauna, building on existing data bases, containing *inter alia* species description and figures, ecological information and distribution and economical importance;

Takes note of activities listed in Annex 1 attached to the Executive Summary of the *Ad Hoc* Consultation (Document IOC-XVIII/2 Annex 9), and particularly encourages the pursuit of those activities which can be conducted at no cost to the IOC.

APPENDIX TO ANNEX I

IOC MARINE BIODIVERSITY WORK PLAN 1995-97

ACTIVITY	FOCAL POINT	TIME FRAME	IMPLEMENT-ATION STATUS
Valuation of BD in cost-benefit analyses	IOC Secretariat in co-operation with UNEP-Water	1996	Not-implemented
Appraisal of the stat of marine BD	IOC Secretariat in co-ordination with the Secretariat of the CBD	1996-...	On-going
Identification of parameters and development of methodologies for monitoring changes in marine BD (including low-tech methodologies)	GEEP	1996	Under implementation
Identification of a global network of representative ecosystems for future projects for integration of baseline inventories, research activities, methods for monitoring (including low-technology approaches), comprehensive management for sustainable use and conservation of marine biodiversity, and community level education	IOC Secretariat in collaboration with MAB	1996-97	Workshop under consideration

Further implementation of the UNESCO-IOC Register of Marine Organisms and its integration with the IUBS-ICSU-IUMS Species 2000 Programme	IOC Secretariat in co-ordination with the Editor of the Project	1996-97	On-going

ACTIVITY	FOCAL POINT	TIME FRAME	IMPLEMENT-ATION STATUS
Training on development of national inventories and management of biological data (on a rotating basis among the IOC Regional Bodies)	IOC Secretariat	1996-97	On-going
Establishment of networks (or regional inventories of) taxonomists through the IOC Regional Bodies	IOC Regional Bodies	Start in 1995	Under development
Short-term training in para-taxonomy	IOC Secretariat	1995-97	Under development
Upgrading expertise through training courses, study grants and exchange of scientists	IOC Secretariat	continuous activity	On-going
Long-term high level education in taxonomy (fellowships for Master and Ph. D. programmes in taxonomy)	IOC Secretariat	To start in 1996	Under consideration
Pilot projects on PA/EE concerning marine BD	IOC Secretariat in collaboration with UNESCO-EPD	1996-97	Implemented

ANNEX II

BRIEF DESCRIPTION OF THE UNESCO-IOC REGISTER OF MARINE ORGANISMS (URMO)

A UNESCO-IOC Register of Marine Organisms (URMO) has been developed and is now available on Internet (at http://www.unesco.org:80/ioc/oslr/taxon.htm).

URMO is an important tool for marine biodiversity purposes, to check taxonomic lists. It also provides a bibliography of the most important works and will allow taxonomists to have access to more specific lists/databases.

The Register extends, at the present time, to the family level. IOC, Dr. van der Land (URMO Editor) of the National Museum of Natural History of Leiden, Netherlands, and the Expert-center for Taxonomic Identification (ETI) in Amsterdam - the three partners of the project - are now expanding the Register down to the species level. Taxonomists can help in this respect by making available their lists of species. At this end, the software "Linnaeus II" can be used, which is available on ETI's website at http://145.18.162.199/default.html or on diskette (free of charge) at ETI Headquarters in Amsterdam.

This will lead to a product - the CD-ROM version of the Register (scheduled for the end of 1997) - which will also include tools as a guidance for identification. Computer assisted taxonomy is, in fact, most relevant to those countries where libraries are scarce or absent, and the CD-ROM version of the Register will assist in particular those countries that have not access to Internet.

For non-specialists, the Register will provide explanations on categories and classification, thus introducing the user gradually but quickly to the world of taxonomy and systematics.

The Register represents a co-operative effort among taxonomists as well, since it provides a basis to build up internationally agreed taxonomic terminology of marine organisms, as a co-ordinating mechanism to stabilize nomenclature.

The US National Oceanographic Data Center (NODC) Taxonomic Code (a hierarchical system of numerical codes used to represent the scientific name of organisms) has been introduced in the Register. This will allow users to easily digitize their data: once a coding system has been introduced, the records can be easily manipulated for statistical analysis, etc.

Some four-hundred taxonomists worldwide have been involved in the first phase of this project. The whole marine biodiversity community is invited to benefit from URMO and, if possible, contribute to its further development.