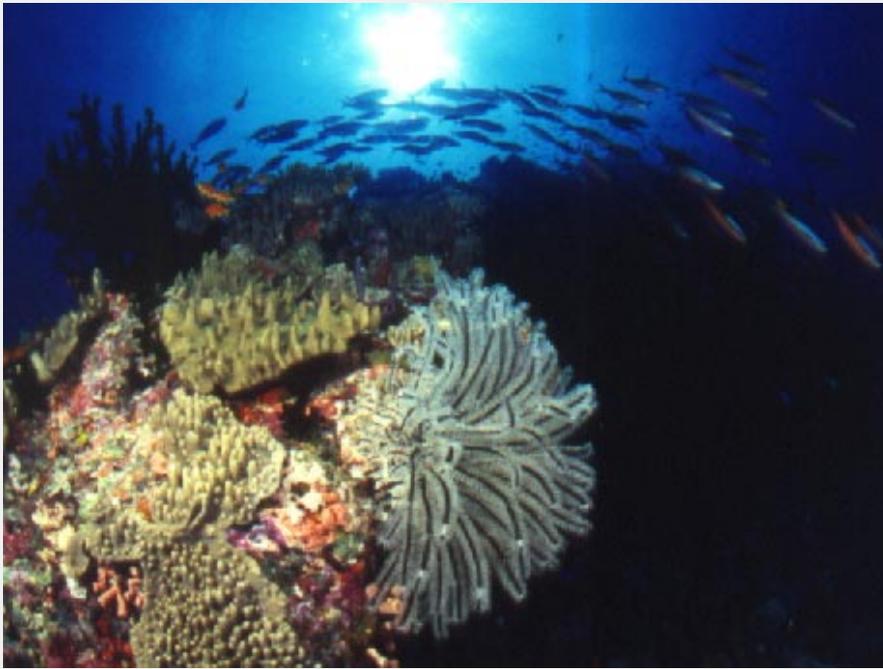


The Jakarta Mandate

– from global consensus to global work

Conservation and sustainable use of marine and coastal biological diversity



Why marine and coastal biological diversity is important

It all started in the sea; the vast world ocean is the origin of life on Earth. Moreover, to this day, 'new' and sometimes apparently impossible life forms are discovered in the sea. Only, they are neither new nor impossible. They just are, and they reflect the amazing diversity of life on this blue planet. If anything, they demonstrate our still rather big lack of knowledge of the ocean and the scope of its life.

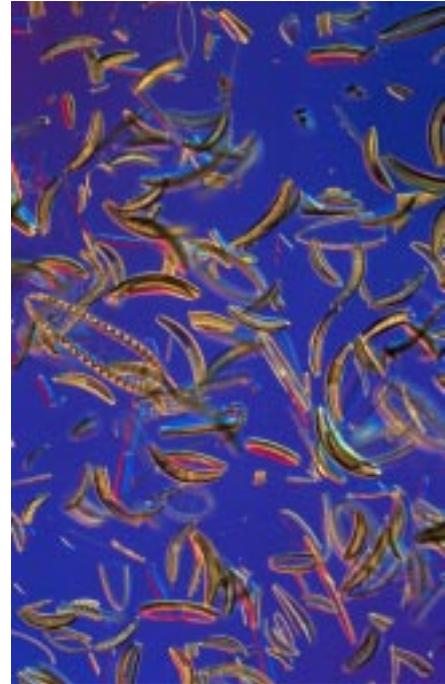
To date, an estimated 1.7 million species have been identified, but the exact number of the existing species is still unknown. Estimates vary from a low of 5 million to a high of 100 million. Seas cover over 70 per cent of the surface of Earth, but only about 15 per cent – some 250,000 – of the total number of known plant and animal species are found there. Species living on land, or in the ocean and the coastal zone, are unique, have unique roles, and provide unique resources and services. Marine and coastal habitats cannot take the place of forests or grasslands. Consequently, conservation and sustainable use of marine and coastal living organisms is just as crucial as conservation and use of species in a forest

or another terrestrial environment.

Struggle to survive

The seas harbour all from the very smallest to the very largest of organisms; from single-cell algae to 60 metres long kelp plants; from microscopic zooplankton to giant whales. Animals and plants living in the sea are

amazingly adapted for surviving in their particular underwater environment. That environment could be a warm tropical sea, the constant coldness of the Polar regions, or the



Micro algae (diatoms), the marine microcosm and basis for marine life.

variations of a northern brackish-water sea or an estuary anywhere in the world. It could be the depth of the ocean abysses or the near-shore shallows of a tidal sea. It could be the relatively barren open ocean or nutrient-rich coastal strips. Life is found at depths of over 11,000 metres and in the very surface of the water in areas close to land. Actually, almost 60 per cent of the Earth's surface are seabed



Humpback whales, majestic marine giants.



Sabre-tooth fish, a deep-water species.

at depths never reached by sunlight. The sea offers an immense variety of living conditions – and highly variable chances of survival. Although mostly well adapted, every species in every marine or coastal ecosystem is struggling to survive. This

holds true when there is no or little human impact on that environment. It is even truer when pollution, over-exploitation and destruction of habitats adds to the normal hardships in the sea.

The variety of survival strategies, and of functional diversity in the sea, could prove very useful not just for the marine and coastal biodiversity but also for humankind. A wide range of interesting chemicals is found within marine organisms; substances that could con-

stitute an important source of new biochemical products including medicines. Antibiotics, anti-coagulants and drugs for treating cancer and heart disease have already been derived from marine organisms.

Narrow, vulnerable and highly productive

The ocean holds about one billion km³ of water, but most of underwater life is found in the narrow, shallow coastal strip, the interface between land and sea. If anything could be compared to rain forests on land, it would be the rich, sunlit coastal zone. This strip of diverse ecosystems and habitats, found along all continents around the world, belong to the biologically most productive areas on Earth. These areas and their living resources are major components in the global biogeochemical cycles. At the same time, many of these valuable areas are sensitive to human activities, impacts and interventions.

In the coastal zone we find productive wetlands and also hard surfaces harbouring myriads of life. It is a diversity of extensive areas of complex, specialized and highly productive habitats. Among many things, the continental margin may comprise a coral reef, a sandy beach, a mangrove forest, a river estuary, a

Life is also abundant in the cold Polar regions.



mudflat, salt marshes, a rocky shore, or beds of sea-grass or seaweed. As pointed out in the Global Biodiversity Assessment (1995), 'many kelp forests and rocky intertidal shores are among the most productive of any ecosystem in the world. Coastal fisheries are the richest in the world, with more than 75 per cent of the world's fish catch coming from coastal waters.' In total, more than 95 per cent of the global catch of edible fish and shellfish is derived from continental shelf areas rather than from the open ocean.

The coastal zone is a breeding ground, a nursery, a shelter, a food store, and much more for life in the sea. Over 90 per cent of the living and non-living resources are found along the coasts within a sea-land area that extends only a few hundred kilometres from the shore.

One tenth to carry three out of four

The coastal zone is also the home and source of existence for a majority of the global human population. Two thirds of us – close to four billion people – already live in the immediate coastal region, which is ten per cent of the total land area in the world. Most of us, worldwide, live within 80 km of the coast. One fifth of the global population is found in coastal urban centres. It is believed that 30 years from now, some 75 per cent of the global population will live in the narrow coastal zone.

Marine and coastal areas are under increased pressure in almost all parts of the world, as are their natural resources and remaining coastal habitats. Rapid development, characterized by unsustainable development patterns, and population growth continue.



Wadden Sea, a European coastal wetland complex.

There is international agreement that the most serious threats to marine and coastal biological diversity are alteration and loss of habitat, including destruction of watersheds; chemical pollution and eutrophication; climate change; invasions of alien species; and over-exploitation of living marine and coastal resources.

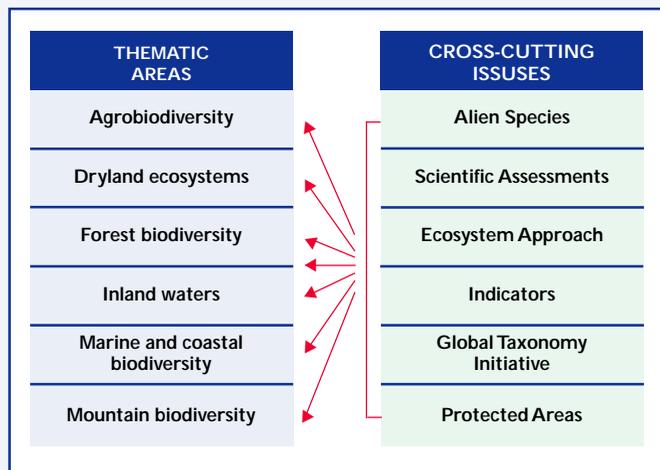
It is not hard to understand that marine and coastal biological diversity will be depleted, productivity undermined, and conflicts over increasingly scarce coastal zone resources intensified – unless present development and resource use trends are reversed.

Biological diversity, as defined in the Convention on Biological Diversity, means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

It should go without saying that the conservation and sustainable use of marine and coastal biodiversity is a prerequisite for future life on our planet. Life started in the sea. It will not go on without life in the sea and its near-shore nurseries.

The Convention on Biological Diversity

- The Convention on Biological Diversity was agreed upon by the world community as part of its commitment to sustainable development. It represents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.
- The Convention is the first global, comprehensive agreement to address all aspects of biological diversity, and recognizes that the conservation of biological diversity is a common concern of humankind and an integral part of the development process.
- As a shared responsibility is called for, the Convention promotes a renewed partnership among countries. The Convention's provision on scientific and technical cooperation, access to financial and genetic resources, and the transfer of environmentally sound technologies, form the foundations of this partnership.
- The Convention on Biological Diversity – one of the most significant recent developments in international law, international relations, and the fields of environment and development – was opened for signature on 5 June 1992 at the UN Conference on Environment and Development. It entered into force on 29 December 1993. In April 2000, close to 180 states had signed and ratified the Convention.
- The Conference of the Parties (COP) is the supreme body of the Convention. The first session of the COP was held in 1994 in the Bahamas; the second in Jakarta in 1995; the third in Buenos Aires in 1996; the fourth in Bratislava in 1998; and the fifth in Nairobi in May 2000.
- **The Jakarta Mandate is a global consensus on the importance of marine and coastal biological diversity. It is part of the Ministerial Statement at the COP meeting in Jakarta in 1995 on the implementation of the Convention of Biological Diversity. Its work programme was adopted at the COP meeting in Bratislava in 1998.**
- The COP can establish subsidiary bodies. One such body is the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA). The role of the SBSTTA is to provide the COP with timely advice relating to Scientific and Technical Matters –





thematic areas and cross-cutting issues relevant to all areas – covered by the Convention. It is a multidisciplinary body, open to participation by all Parties, and comprising government representatives competent in all relevant fields of expertise. Other subsidiary bodies established under the COP include the Panel of Experts on Access and Benefit Sharing, and the Intersessional Open-ended Working Group on Article 8 j and Related Provision.

- The Convention has established a Financial Mechanism to provide funds to help developing countries achieve its objectives. The mechanism is operated by the Global Environment Facility (GEF) under the guidance of the COP.
- The Convention has also established a Secretariat. The role of the Secretariat of the Convention is to arrange and service meetings of the COP; assume duties assigned by potential protocols; prepare reports; and co-ordinate with other international relevant bodies. The main function of the Secretariat in relation to the Jakarta Mandate is to promote the implementation of identi-

fied specific activities and to perform an overall co-ordination role.

- The Convention has a bottom-up approach, is needs-driven and nationally driven. It should be constructed step by step. It has national and Clearing-House Mechanism (CHM) focal points, as well as focal points in relevant organizations. Each focal point should develop its own supporting network. The Convention's Biodiversity CHM is a 'network of networks'.
- The CHM is an open and decentralized information and co-operation network in progress. The objective of this network of co-operating parties and partners is to translate the goals of partnership and co-operation into action. It aims to promote and facilitate scientific and technical co-operation for the implementation of the Convention by developing and strengthening national capabilities through human resource development and institution-building; facilitating the transfer of technology; and promoting the establishment of joint research programmes and ventures for the development of relevant technologies.

Jakarta Mandate – from consensus to work programme

The pressure on coastal and marine environments world-wide was highlighted in the comprehensive Global Biodiversity Assessment, commissioned by UNEP, funded by the Global Environment Facility (GEF), and presented to the COP meeting in Jakarta in 1995.

That meeting also comprised a meeting of Ministers. In their Statement they referred to the new global consensus on marine and coastal biological diversity as the **Jakarta Mandate on Marine and Coastal Biological Diversity**.

The Ministers reaffirmed that 'there is a critical need for the COP to address the conservation and sustainable use of marine and coastal biological diversity, and urge Parties to initiate immediate action to implement the decisions adopted on this issue.' In that context, the Ministers welcomed 'the declaration by the COP of the new global consensus on the importance of marine and coastal diversity'.

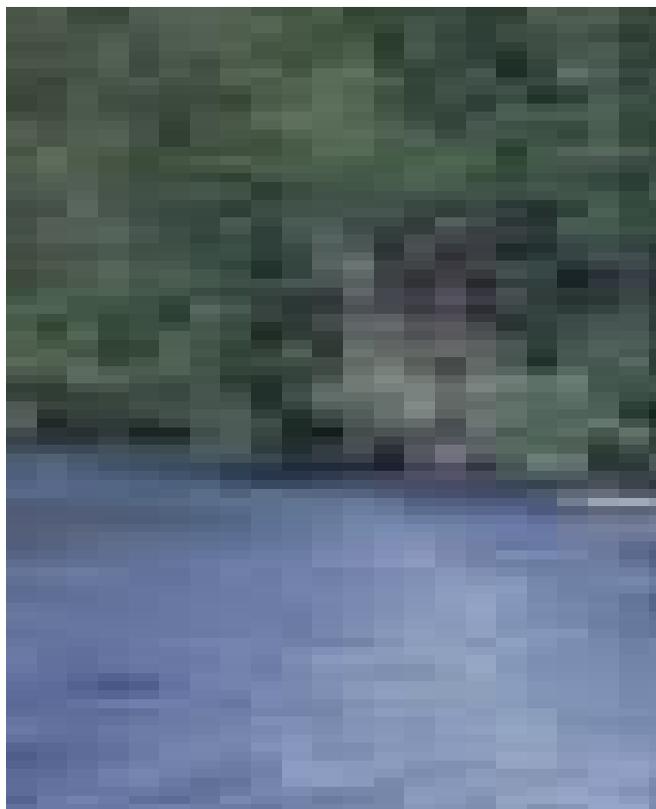
In the decision taken by the COP at its meeting in Jakarta, a work programme for marine and coastal biological diversity was called for. Following this decision (II/10), a Roster of Experts on Marine and Coastal Biological Diversity was established. On the basis of their work and recommendations by the experts, a work programme was subsequently elaborated.

At the COP meeting in Bratislava in 1998, the Parties adopted a Decision (IV/5) on conservation and sustainable use of marine and coastal biological diversity, including a **Multi-year Programme of Work on Marine and Coastal Biological Diversity**. The work programme is focused on five thematic issues, which reflect those identified in the Jakarta Decision and Ministerial Statement. In addition, this Decision also addresses coral reefs and Small Island Developing States.

The purpose of the work programme is to facilitate the assist the implementation of the Jakarta Mandate. It is to be promoted and coordinated by the Secretariat of the Convention, and is founded on six basic principles:

- The ecosystem approach;
- The precautionary principle;
- The importance of science;
- That full use should be made of the roster of experts;
- The involvement of local and indigenous communities (traditional knowledge); and
- Three levels – national, regional and global – of programme implementation.

The work also interacts with a number of other programme activities within the Conven-



tion, the ones most relevant to the Jakarta Mandate being:

- Biological diversity indicators;
- Species, taxonomy and systematics;
- Global Taxonomy Initiative (GTI);
- Incentive measures;
- Environmental impact assessment;
- Sustainable use;
- Sustainable tourism.

Implementation should primarily take place at national and local levels. It should be integrated into the national biodiversity strategies, plans and programmes in order to promote the conservation and sustainable use of marine and coastal biological diversity.

The global and regional levels are also im-

portant. International organizations and agreements should be encouraged to implement the work programme on marine and coastal biological diversity within their own work. These organizations include, *inter alia*,

- UN Environment Programme (UNEP), including the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), and Global International Waters Assessment (GIWA);
- UN Food and Agriculture Organization (FAO);
- Intergovernmental Oceanographic Commission (IOC) of UNESCO;
- UN International Maritime Organization (IMO);
- Convention on Wetlands (Ramsar Convention);
- Convention on Migratory Species (Bonn Convention);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, (CITES);
- World Heritage Convention.

Regional organizations, bodies and agreements should be invited to co-ordinate activities relevant to the work programme. These include, for example,

- UNEP Regional Seas Conventions and Action Programmes (e.g., Mediterranean, Caribbean, South East Pacific Action Plans);
- Other regional conventions and action programmes (for the North-east Atlantic, the Baltic Sea, the Barents Sea, etc.).



Mangrove forest, Biak Island, Indonesia.

The Jakarta Mandate Work Programme

The five key programme elements of the Jakarta Mandate Work Programme are:

- **Integrated marine and coastal area management (IMCAM);**
- **Marine and coastal living resources (MCLR);**
- **Marine and coastal protected areas (MCPA);**
- **Mariculture;**
- **Alien species and genotypes.**

In addition, a general element was identified encompassing the coordinating role of the Secretariat, the collaborative linkages required, and the effective use of experts.

Local fishermen collecting shellfish, Indonesia.



Integrated marine and coastal area management (IMCAM)

Generally, we manage resources sector-by-sector. However, such sectoral approaches to the management of marine and coastal resources have generally not resulted in sustainable development in the areas and regions concerned. Consequently, taking measures sector-by-sector has not either enhanced the conservation and sustainable use of marine and coastal biological diversity.

New systems-oriented models that move planners and decision-makers toward management systems built on multiple-use, and precautionary and ecosystems approaches, are urgently needed to reverse the negative trends. It is needed to put development on an ecologically sustainable path. A holistic management approach, focusing on ecosystem processes, is needed for proper management of marine and coastal biological diversity. For effective conservation and sustainable use of marine and coastal biological diversity, Integrated Marine and Coastal Area Management (IMCAM) needs to be widely adopted and implemented.

IMCAM involves comprehensive assessments, setting of objectives, planning and management of marine and coastal areas for all relevant economic and social sectors. It is a participatory process of combining all aspects of the physical, biological and human components of the marine and coastal areas within a single management framework. It involves all stakeholders - decision-makers in the public and private sectors; resource owners and users; managers and users; non-governmental organisations and the general public.

At the Jakarta meeting, the COP decided to encourage the use of IMCAM as the most suitable framework for addressing the impact of human activities on marine and coastal biological diversity and for promoting conservation and sustainable use of these resources.

Countries are recommended to establish and/or strengthen institutions, administrations and legislation for the development of integrated management of marine and coastal ecosystems. It was also pointed out that activities like construction and mining in coastal areas, mariculture, mangrove management, tourism, recreation, fishing and other land-based activities, are particularly important sectoral activities to be dealt with within an IMCAM framework.

Objectives and activities

Objective1:

Review existing instruments relevant to IMCAM and their implication for the implementation of the Convention.

Activities:

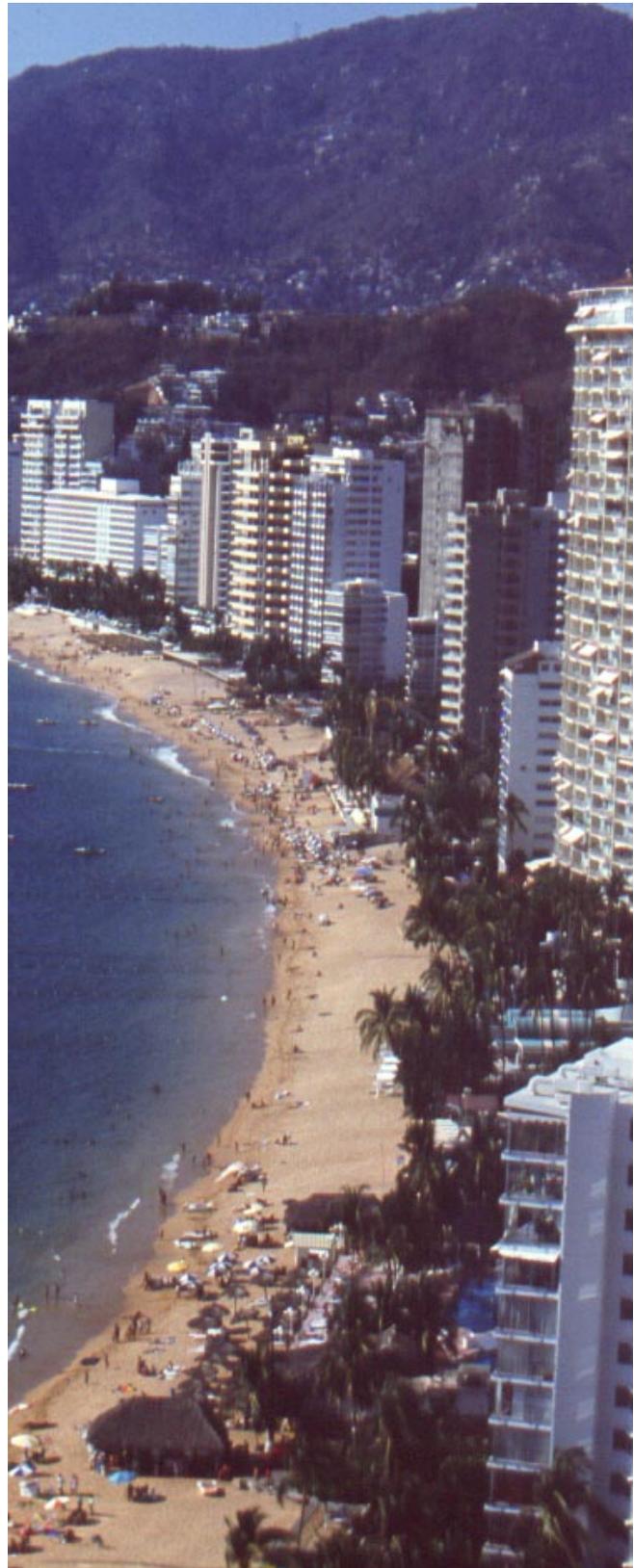
- Identify existing mechanisms and instruments relevant to IMCAM;
- Identify focal points for implementation of IMCAM at different levels;
- Gather, compare and analyse information provided by the focal points;
- Convene meetings involving representatives of stakeholders at different levels.

Objective 2:

Promote the development and implementation of IMCAM at the local, national and regional level.

Activities:

- Promote within the framework of IMCAM the integration of biological diversity concerns in all socio-economic sectors adversely impacting the marine and coastal environments;
- Promote the identification or establishment of sub-regional, regional or global processes for developing advice on the application of IMCAM and issues identified under the operational objective;
- Promote adequate protection of areas important for reproduction such as spawning and nursery areas and restoration of such areas and other important habitats for marine living resources;
- Promote action to reduce and control sea-based sources of pollution;
- Assist the development of national and regional capacity building;
- Provide information on relevant legal and institutional issues, having regard to UNCLOS and other international and regional agreements;
- Assist in the development of appropriate education and public awareness programmes at all levels;
- Provide guidance on maintenance and wider application of local and traditional knowledge.



Objective 3:

Develop guidelines for ecosystem evaluation and assessment (including indicators).

Activities:

- Promote the development of sets of indicators on which to base decision-making; and convene regional workshops to help select key indicators;
- Identify existing organizations and initiatives;
- Promote the identification of key habitats for marine living resources on a regional basis, with a view to further develop policies for action to prevent physical alteration and destruction of these habitats, and pursue restoration of degraded habitats, including, *inter alia*, coral reef systems;
- Promote the establishment or strengthening of mechanisms for research, monitoring and assessment of marine and coastal ecosystems and their living resources;
- Promote exchange of information and experience using the clearing-house mechanism and other appropriate mechanisms;
- Collaborate with relevant organisations in the preparation of guidelines.

Marine and coastal living resources

Fish and shellfish provide 5-10 per cent of the world's food supply, and 10-20 per cent of the world's protein. Commercial or large-scale fishing provides more than 90 per cent of the global catch of living marine resources. Traditional and artisanal fisheries are widespread along the coasts in several regions of the world and particularly in many developing countries. A great variety of species is harvested within these fisheries. They provide between 40 and 100 per cent of the animal protein in the food of people in tropical developing countries. However, many of the world's fishery resources are already over-exploited and others are facing the danger of depletion. In addition, other living resources – such as mangrove, corals and species amenable to bio-prospecting – are subject to or under threat of over-exploitation.

The COP and SBSTTA have repeatedly emphasized that the ecosystem approach should be the guiding principle and provide the primary framework for action to achieve conservation and sustainable use of marine and coastal living resources. This augments the traditional mono-species approach. In practice it means that the conservation and sustainable use of biological diversity should be addressed in a holistic manner, including biological diversity considerations as well as socio-economic and cultural factors.



Objectives and activities

Objective 1:

Promote ecosystem approaches to the sustainable use of marine and coastal living resources.

Activities:

- Develop collaborative links with relevant organisations and institutions;
- Promote exchange of information and experience using appropriate mechanisms;
- Promote identification and development of ecosystem approaches compatible with the sustainable use of marine and coastal living resources;
- Promote identification both of components of ecosystems which are critical to the functioning of the ecosystem and of key threats;
- Promote capacity-building at local, national and regional levels, including local and traditional knowledge;
- Carry out a study on the effects of stock enhancement on marine and coastal biological diversity at the species and genetic levels.

Objective 2:

Make information on marine and coastal genetic resources, including bio-prospecting, available to Parties.

Activities:

- Explore ways to expand the knowledge base on which to make informed and appropriate decisions about how this area might be managed in accordance with the objectives of the Convention.

Marine and coastal protected areas

Networks of marine and coastal protected areas, as well as other conservation areas such as Biosphere Reserves, provide important tools for conservation, management and sustainable use of marine and coastal biological diversity and resources. The establishment of protected marine and coastal areas is, however, significantly lagging behind similar efforts in the terrestrial environment

The establishment of marine and coastal protected areas is successful only if these areas are set up and managed as part of broader programs that provide for the management of all uses of the marine and coastal area and adjacent land. Thus, national and regional representative systems of marine and coastal protected



Macro algae (kelp forest), California.



Tropical coast of the Island of La Digue, Seychelles.

areas should be established to comprise complete ecosystems or habitats to as large an extent as possible. These should, in turn, be integrated with national policies and mechanisms for IMCAM. The establishment of large, multiple-use marine and coastal protected areas are a major step towards achieving integrated marine and coastal area management. Smaller, often community-based reserves also need to include management of land-based activities that have an impact on the viability of the protected area. To be effective, systems for IMCAM should include the establishment and management of marine and coastal protected areas as an integral component. Regarding priority areas to be selected as protected areas, the COP has expressed the view that critical habitats for living marine resources should be an important criterion for the identification of marine and coastal protected areas. It has also been emphasized that conservation measures should focus on the protection of ecosystem functioning, in addition to protecting specific stocks or species.

Objectives and activities

Objective 1:

Facilitate research and monitoring activities on the value and effects of marine and coastal protected areas or similar restricted management areas on sustainable use of marine and coastal living resources.

Activities:

- Collaborate with relevant organizations in the preparation of project proposals;
- Work with relevant organizations to identify pilot projects;
- Conduct a desk study to gather and assimilate information;
- Identify linkages between conservation and sustainable use;
- Facilitate for Parties, countries or international/regional organizations to conduct research on the effects of marine and coastal protected or closed areas on population size and dynamics, subject to national legislation.

Objective 2:

Develop criteria for the establishment and management of marine and coastal protected areas.

Activities:

- Compile research findings on aspects of marine and coastal protected areas relevant to their selection, design, establishment and management;
- Assist in developing criteria for selection of marine and coastal protected areas, where critical habitats for marine living resources should be one important criterion;
- Use the clearing-house mechanism to assist the exchange of information on research, management issues and problems (including incentive measures) between marine protected area managers, to facilitate continuous improvement in management effectiveness across the global network of marine protected areas.
- Assist in the development of national and regional capacity-building, provide information on relevant legal and institutional issues, assist the development of appropriate education and public awareness programmes at all levels, and provide guidance on maintenance and wider application of local and traditional knowledge.

Mariculture

Mariculture is the commercial farming of fish, shellfish, molluscs and plants in saltwater. It corresponds to about 11 per cent of total marine production (11 million tonnes in 1987), but in some countries up to 60 per cent of the animal protein in food comes from farmed marine organisms. Production is growing annually at a rate of 5-7 per cent as more and more species are brought into cultivation.

On the one hand, mariculture holds promises for sustainable production of protein-rich food products and for sustainable economic development in many local communities.

On the other hand, however, large-scale industrial mariculture poses a number of significant threats to marine and coastal diversity. These threats include large-scale destruction and deterioration of natural habitats; emissions of nutrients and organic material causing eutrophication and oxygen deficiency; leakage of antibiotics in wastes; releases of individuals which may interact genetically and ecologically with wild populations; accidental releases of alien or genetically modified organisms; transmission of diseases to wild stocks; and displacement of local and indigenous communities.



Salmon farming, Norway.

In order to avoid or minimize negative impacts of mariculture, COP has made a number of recommendations, including:

- Assessments should be conducted and a monitoring programme established in any decision to go ahead with an introduction;
- Preference should be given to the use of local species;
- The development of techniques, which ensure more complete containment, should be encouraged;
- Owing to the difficulties of containment, any introduction of alien species or products of selective breeding should be conducted in accordance with the precautionary principle.

Oyster cultivation on the Atlantic coast of France.



Objectives and activities

Objective:

Assess the consequences of mariculture for marine and coastal area biological diversity and promote techniques to minimize adverse impacts.

Activities:

- Promote guidance on criteria, methods and techniques to avoid the adverse effects of mariculture and also subsequent stock enhancement on marine and coastal biological diversity and enhance the positive effects of mariculture on marine and coastal productivity;
- Collect and disseminate information, data, literature and bibliography relevant to the operational objective and best practice of successful sustainable mariculture, including the use of local species where appropriate;
- Evaluate the current state of scientific and technological knowledge on effects of mariculture on marine and coastal biological diversity.

Alien species and genotypes

Components of biological diversity, including species, genetic strains, and mixed genetic stocks that are not native to an area, are known as 'alien' and may have significant irreversible and negative effects on marine and coastal biological diversity. There are already examples of serious direct and often irreversible negative effects of alien species on marine ecosystems, which hinder the conservation and sustainable use of marine and coastal biological diversity.

It is generally very difficult, in fact almost impossible, to eradicate or eliminate alien species once they have been established in a new environment. Consequently, the most effective strategy to limit the effects on biological diversity is to prevent the introduction of alien species. Implementation of strict environmental impact assessments prior to all intentional introductions is one important tool for management.

One must also distinguish between intentional and unintentional introductions. Sources of non-intentional introductions include discharges of ballast water from ships; escapees from mariculture; organisms associated with species introduced intentionally; and unauthorized releases by the public. Introductions resulting from the building of waterways connecting previously separated water bodies (e.g. the Suez Canal) is a spe-

cial case. Intentional introductions occur through activities such as mariculture, including marine ranching; release of hatchery-spawned organisms for the purpose of strengthening/enhancing wild populations; and individuals resulting from the interbreeding of different genetic stocks.

The potential problems caused by introductions were recognized at an early stage and included in the text of the Convention (paragraphs g and h of Article 8). Contracting Parties should:

- establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;
- prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.

Objectives and activities

Objective 1:

Achieve better understanding of the causes and impacts of introductions of alien species and genotypes and the impact of such introductions on biological diversity.

Activities:

- Analyse and disseminate information, data and case studies;
- Develop collaboration with relevant organisations;
- Ensure exchange of information and experience using appropriate mechanisms.

Objective 2:

Identify gaps in existing and proposed legal instruments, guidelines and procedures; and collect information on national and international actions addressing the problem of alien species and genotypes.

Activities:

- Request views and information from Parties, countries and other bodies;
- Analyse the information for the purpose of identifying gaps in legal instruments, guidelines and procedures;

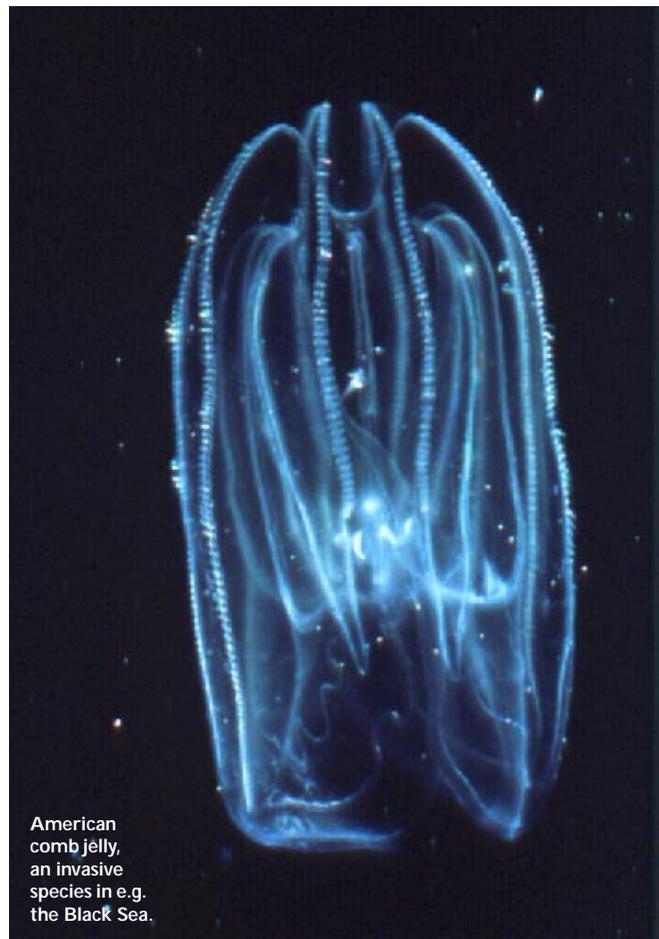
- Evaluate the information on the effectiveness of efforts to prevent the introduction of, and to control and eradicate, those alien species which may threaten ecosystems, habitats or species;
- Identify means to support capacity-building in developing countries to strengthen their ability to conduct work related to alien species.

Objective 3:

Establish an 'incident list' of introductions of alien species and genotypes through the national reporting process and any other appropriate means.

Activities:

- Distil references of incidents from the national reports and other appropriate sources;
- Make information available through the clearing-house mechanism or other appropriate mechanisms.



American comb jelly, an invasive species in e.g. the Black Sea.

Work programme tools ...

... **a roster of experts on marine and coastal biological diversity.** The experts on the roster will contribute to further development of scientific, technological and socio-economic issues, including specific elements of national policies on marine and coastal biological diversity;

... **a database of initiatives on programme elements, with special emphasis on integrated marine and coastal area management,** will be established to inform on relevant initiatives, promote exchange of information and experiences among Parties and strengthen co-operation with relevant organizations and bodies;

... **memoranda of co-operation** will be signed to formally agree on common operational objectives at the Secretariat level, in order to promote synergy in the implementation of the respective programme.

... **ad hoc technical expert groups** will be established to review proposals on research and monitoring projects on the value and effects of marine and coastal protected areas. They will identify the linkages between conservation and sustainable use; evaluate the current state of scientific knowledge of the effects of mariculture, and provide guidance criteria, methods and techniques to avoid adverse and promote positive effects of mariculture and stock enhancement;

... **the Jakarta Mandate web site** will be

maintained to promote the Jakarta Mandate and the programme of work for its implementation, and to disseminate relevant information;

... **the Clearing-House Mechanism** will be used for exchange of information and expertise, as well as to promote scientific and technical co-operation.

... and products

Guidelines for ...

- ... integrated marine and coastal area management;
- ... ecosystem evaluation and assessment, including indicators;
- ... establishment and management of marine and coastal protected areas.

Studies on ...

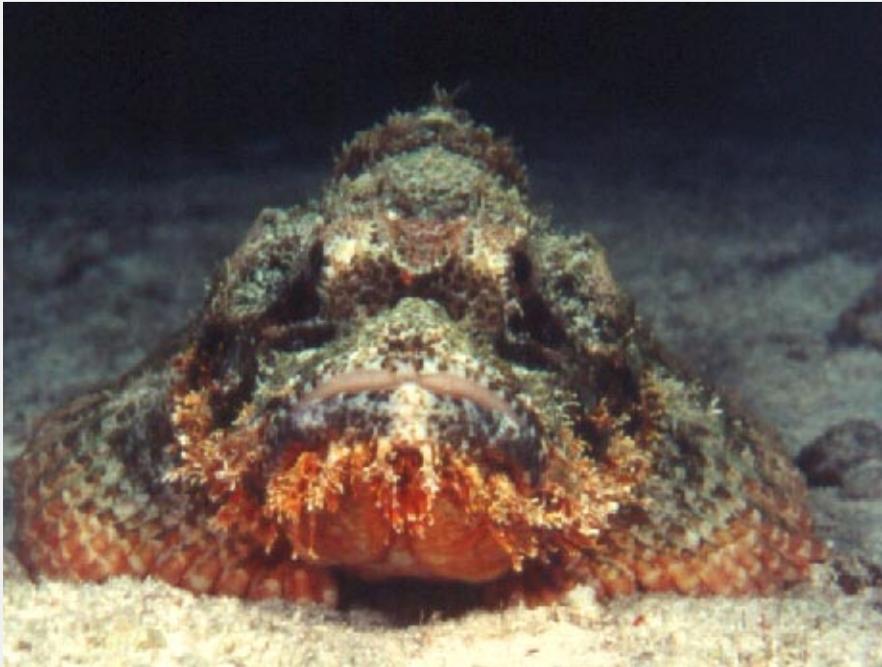
- ... effects of stock enhancement;
- ... genetic resources and bio-prospecting;
- ... gap analysis of legal instruments, guidelines and procedures for alien species and genotypes.

Databases comprising ...

- ... a roster of experts on marine and coastal biological diversity;
- ... an incident list of alien species and genotypes.

Issue paper on ...

- ... the coral bleaching phenomenon, including potential loss of diversity, and consequent socio-economic effects.



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