

# TOWARD THE 2002 WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT JOHANNESBURG



## Ensuring the Sustainable Development of Oceans and Coasts

### A CALL TO ACTION

*Co-Chairs' Report from*

The Global Conference on Oceans and Coasts at Rio+10  
Held at UNESCO, Paris  
December 3-7, 2001

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## *Editor's note:*

The Co-Chairs' Summary is based on the papers presented at the conference, the panel discussions, the Working Group reports, and background materials prepared by the Secretariat. The Co-Chairs' Summary has been prepared by the Co-Chairs, with the advice of the Conference Executive Committee, and it does not necessarily reflect the views of all the Conference participants.

***Additional Conference reports, including a Ministerial Perspectives Volume containing the speeches of ministers attending the conference and the reports of the Working Groups, will be available in early February, 2002.***

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*Co-Chairs' Summary*

**Prepared by Dr. Patrico Bernal,  
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## Foreword

The Global Conference on *Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development, Johannesburg* convened from December 3-7, 2001 at UNESCO in Paris. The Conference involved over 400 participants from 61 countries, assembling an array of experts from a diverse range of sectors including governments, United Nations agencies and other intergovernmental organizations (IGOs), and nongovernmental organizations (NGOs) representing environmental, industry, and scientific/technical perspectives.

The Conference was convened nearly ten years after the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, with the aim of assessing the present status of oceans and coasts and progress achieved over the past decade, addressing continuing and new challenges, and laying the groundwork for the inclusion of an oceans perspective at the 2002 World Summit on Sustainable Development (WSSD), to be held in Johannesburg.

The Earth Summit put into motion many changes related to ocean and coastal management—including the adoption of a number of international agreements on oceans; substantial new investment by international and national donors; extensive efforts by national governments to establish programs in coastal and ocean management; and significant advances in global scientific efforts to understand and better manage oceans and coasts.

This is a crucial time for oceans and coasts. After a decade of significant change at international, national, and local levels, *Oceans and Coasts at Rio+10* provided an opportunity to take stock, to assess what has been accomplished on oceans and coasts since the Earth Summit. Agenda 21 established an ambitious program of action. But, the world has changed and new priorities have emerged. From the ministerial perspectives, the panel speakers, and the working group discussions that occurred at the conference, a clear and central theme emerged: *It is imperative that oceans and coasts be included in the discussions at the WSSD, as sustainable development and poverty reduction cannot be achieved without healthy oceans and coasts.*

*There was a general consensus among participants of declining trends in ocean and coasts around the world. Fisheries, marine mammals, coral reefs, and coastal ecosystems such as mangrove swamps are among our marine assets presently at risk, and demand attention at all levels. Although some of the statistics and trends are troubling, and indeed alarming, inclusion of ocean issues at the WSSD provides a key opportunity for governments from around the world to chart the course over the next decade for one of mankind's richest natural heritages: our oceans.*

We are deeply thankful to the many Governmental, NGO, and IGO organizations that have provided support for the conference and which are listed at the beginning of this volume. We especially appreciate their encouragement and faith that an unusual "hybrid" meeting like this one—which brought together Governments, NGOs, and IGOs together in the same venue— could produce significant results for consideration by the international community.

We would also like to extend our gratitude to all of the participants at the conference, both for their thorough panel presentations and their enduring devotion to the working groups before, during, and after the conference.

Finally, we would like to offer our heartfelt thanks to the Conference Executive Committee, the Conference Organizing Committee, and the Secretariat Staff for their many contributions to the conference.

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## *List of Acronyms*

ADB	Asian Development Bank	IPCC	Intergovernmental Panel on Climate Change
CIDA	Canadian International Development Agency	IUCN	World Conservation Union
CSMP	Center for the Study of Marine Policy	IUU	Illegal, unregulated and unreported [fishing]
CBD	Convention on Biological Diversity	LME	Large marine ecosystem
DANIDA	Danish International Development Agency	JICA	Japan International Cooperation Agency
EEZ	Exclusive Economic Zone	MPA	Marine protected area
GCRMN	Global Coral Reef Monitoring Network	ODA	Official development assistance
GEF	Global Environment Facility	RFO	Regional fishery organization
GIWA	Global International Water Assessment	SIDA	Swedish International Development Agency
GOOS	Global Ocean Observing System	UN	United Nations
GPA	Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities	UNCED	United Nations Conference on Environment and Development
ICM	Integrated coastal and ocean management	UNEP	United Nations Environment Programme
IGBP	International Geosphere-Biosphere Programme	USAID	U.S. Agency for International Development
ILO	International Labour Organization	WSSD	World Summit on Sustainable Development
IMO	International Maritime Organization	WTO	World Trade Organization
IOC	Intergovernmental Oceanographic Commission		



## EXECUTIVE SUMMARY

The *Global Conference on Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development: Assessing Progress, Addressing Continuing and New Challenges*, held at UNESCO in Paris from December 3-7, 2001, assessed global progress on oceans and coasts in the implementation of Chapter 17 of Agenda 21 and related instruments. The Conference involved 424 participants from 61 countries—164 ocean experts from governments, 162 members of non-governmental organizations and academic institutions, and 98 members of intergovernmental, international, and regional organizations. This Summary by the two Co-chairs highlights the main conclusions. Detailed recommendations are given in the body of the document and summarized in table format at the end of the document.

***Poverty reduction during the coming decade will require more access to sustainable economic livelihoods and wealth derived from the ocean, and development of safer, healthy coastal communities***

The UN Millennium Declaration notes the need to halve, by 2015, the proportion of very poor people in the world, and to reduce the scourge of diseases like malaria and water-borne infections. Today, 250 million clinical cases of gastroenteritis and upper respiratory diseases are caused annually by bathing in contaminated sea water. This is a key concern, and perhaps one of the most difficult challenges facing our use of the oceans. Meeting these needs requires new commitments to make the benefits of trade and globalization available to coastal communities, participatory management of resources, programs specifically targeted to reducing vulnerability of coastal people and infrastructure, and commitments to full participation of women and youth in decision-making and activities related to locally-based coastal and ocean decisions.

***Full implementation and effective compliance with international agreements is needed***

The significant number of international agreements that have come into effect since 1992 now need to be properly implemented and enforced, and their implications for national level action more fully addressed. There is an urgent need for better cooperation and coordination among regional and international bodies governing oceans and fisheries to ensure harmonized and efficient implementation. For example, the implementation of the fishing instruments concluded in recent years (UN Straddling Fish Stocks Agreement, the Code of Conduct for Responsible Fishing, and the Compliance Agreement) is an essential element in putting fisheries on a sustainable development path that could address existing overfishing of many species.

***Capacity building for good governance of coastal and ocean use is necessary***

Scientific advances and technology development will continue to open untapped potential for use of coastal, offshore and Exclusive Economic Zones, and deep ocean areas. Yet our understanding of the role and vulnerability of these new resources and habitats is still limited. All countries, rich and poor, lack the needed capacity to manage even the existing level of development in a well-integrated way. Thus the capacity of local and national governments to apply effective institutional and legal frameworks for integrated coastal and ocean management must be strengthened. This will enable them to pursue opportunities for economic development in the coasts and oceans while protecting their ecological integrity and biodiversity. It will require, among other things, raising public awareness of coastal and ocean issues, the re-targeting of financial assistance to take into account lessons learned from experience, and the building of the capacity of the educational institutions in coastal nations. Capacity building is required within governments, local communities, and NGOs, as well as to enable effective involvement of the private sector.

***The health of the oceans and coasts is directly linked to the proper management of river basins, including freshwater flows to the marine environment***

Eighty percent of marine pollution comes from land-based sources. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute agricultural lands, water supplies and coastal waters. Ecosystem approaches that link management of river basins to marine ecosystems, such as those promoted by the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, must be effectively implemented. This is especially important in the context of the coastal megacities (70% of cities over 8 million people are coastal), such as Lagos, Nigeria—where 65% of the estimated 13.4 million population live in poverty.

***Protecting coastal and marine areas and biodiversity takes an ecosystem approach***

The very significant shift from a sectoral to an ecosystem-based approach that recognizes precaution and linkages among activities is an important achievement of the past decade. The Convention on Biological Diversity provides an international framework for an ecosystem-based approach that will depend upon protection of marine habitats at regional and national levels. Ecosystem-based fisheries management strategies have been developed and applied by Regional Fisheries Organizations. A global representative system of marine protected areas is now needed as one essential component for ecosystem understanding, management and biodiversity protection.

***Strengthening science-based monitoring and assessment of the oceans is essential for managing the long-term sustainability of marine ecosystems***

Effective international coordination needs to be put in place to support an integrated assessment of the status of oceans and coasts, and their use. A periodic, comprehensive global report on the *State of Oceans and Development* is needed, building upon existing regional and sectoral efforts. It could be complemented by similar reports at the national level designed to be used to discharge the reporting duties of countries under several international agreements. This report should anticipate and plan for emerging ocean and coastal issues, such as offshore aquaculture and bioprospecting of marine genetic resources.

***The special problems and issues of Small Island Developing States must be addressed***

Small island developing states have special problems and opportunities related to the oceans which need to be recognized and addressed. These nations, small in land area, typically have control and stewardship responsibilities over huge expanses of ocean: their Exclusive Economic Zones.

Small island states are a special case since many of them are vulnerable to climate change phenomena, such as sea level rise. Small islands states are responsible for the stewardship of vast areas of the oceans, containing high biological diversity, the most extensive coral reef systems in the world, and significant seabed minerals. Small islands states have a critical role to play in the sustainable development of the oceans.

***An urgent call***

A substantial body of scientific evidence supports the urgent call by the conference to place coastal and ocean issues squarely on the World Summit's agenda. As the world's population continues to grow and to concentrate in coastal areas, there will be even greater pressures on coastal and ocean resources. In contrast with the many deteriorating trends affecting oceans and coasts today, there is an alternative vision for the future—one of healthy and productive seas, clean coastal waters, and prosperous coastal communities. Given the pivotal role of oceans and coasts in global sustainable development, it is imperative that the World Summit develops the action plan needed to insure the sustainability and life-support functions of the world's oceans and coasts.

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## **GENERAL CONCLUSION**

*The Conference wishes to transmit a sense of urgency to the WSSD for addressing the issues surrounding the sustainable development of oceans and coasts. Participants at the Conference generally agreed that we are in a critical situation of declining trends that requires immediate actions by nations and governing bodies worldwide. This sense of urgency and priority was corroborated in ministerial statements, as well as by non-governmental, governmental, and international experts, scientists, commercial fishing, and industrial representatives attending the meeting. It is essential that we link economic development, social welfare, and resource conservation in order to achieve sustainability of oceans and coasts. The Conference issues an urgent call to action to decision makers in the WSSD process to develop a detailed action plan for the sustainable development of the world's oceans and coasts.*

# 1. INTRODUCTION: THE IMPORTANCE OF OCEANS AND COASTS FOR SUSTAINABLE DEVELOPMENT

This report presents the results of the *Global Conference on Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development: Assessing Progress, Addressing Continuing and New Challenges*, held at UNESCO in Paris from December 3-7, 2001.

Oceans and coasts are an integral aspect of global sustainable development. The oceans—comprising 72% of the Earth's surface—are what link our far away continents together, they provide the essential life-support function without which life on earth would not be possible, they provide the cheapest form of transportation for our goods, they provide us with energy, food, recreation, and spiritual renovation. Of all the areas covered in Agenda 21, sustainable development can perhaps best be realized in oceans and coasts with considerable savings. Oceans and coastal areas present excellent opportunities for development if conducted in a sustainable manner. However, extending the old and proven institutions operating on land under the jurisdiction of the national states to oceans and coasts is not a minor task. An integrated approach to governance is needed to take full advantage of the benefits that the marine environment offers—be they economic, social, recreational, or cultural.

Coastal areas are crucial to supporting life on our planet. They comprise 20 percent of the Earth's surface yet contain over 50 percent of the entire human population. By the year 2025, coastal populations are expected to account for 75 percent of the total world population (UN, 1992). More than 70 percent of the world's megacities (greater than 8 million inhabitants) are located in coastal areas (IOC, 1999). Coastal ecosystems are highly productive, they yield 90 percent of global fisheries and produce about 25 percent of global biological productivity. Yet they are responsible for cleaning and chemically reprocessing the ever-increasing flow of artificial fertilizers and other side-products of modern economic activities. Over 500 million people depend on coral reefs for food and income (Wilkinson, 2001).

Oceans and coasts support a diverse array of activities yielding enormous economic and social benefits, e.g.:

- ◆ Marine transportation accounts for 90 percent of international trade;
- ◆ Exploitation of coastal and offshore mineral resources provides about 25 to 30 percent of the world's energy supplies and continues to expand, especially in deeper waters (UN, 2000);
- ◆ Fisheries are important both socially and economically; the industry provides direct and indirect livelihood for 400 million people;

- ◆ Marine aquaculture represents a rapidly growing industry and globally accounts for 30 percent of the world's fish consumption;
- ◆ The travel and tourism industry is the fastest growing sector of the global economy. It is estimated to have generated \$3.5 trillion in revenues and close to 200 million jobs in 1999. Coastal tourism is a major portion of the gross domestic product in many small island nations (WRI, 2001).

The multitude of activities supported in ocean and coastal areas is placing increasing pressure on the integrity of the coastal and marine ecosystems and many of the ocean and coastal resources are threatened through overexploitation. For example:

- ◆ 47 percent of global fisheries are fully utilized and 28 percent are overutilized. Overall, 75 percent require urgent management to freeze or reduce capacity (FAO, 2000).
- ◆ Of 126 species of marine mammals, 88 are listed on the IUCN Red List of Threatened Species (Marsh et al, 2001).
- ◆ 11 percent of coral reefs were completely destroyed prior to the 1998 El Niño event while 16 percent were severely degraded in 1998 alone. Another 20 to 30 percent are threatened in the next 10 years, while current projections indicate possible losses of 50 to 60 percent within 30 years (Wilkinson, 2001).
- ◆ It is estimated that overall 50 percent of the world's mangrove forests have been lost (WRI, 2001).
- ◆ Important seagrass habitats, occupying over 600,000 km<sup>2</sup> are rapidly being destroyed; in South East Asian countries, 20 to 60 percent of seagrass beds have been lost (Fortes, 2001).
- ◆ 12 billion tons of ballast water containing, at any one time, 10,000 marine species are shipped around the globe each year, spreading alien and invasive species (Bax and Agüero 2001).
- ◆ Over the past two decades, the frequency of recorded harmful algal blooms resulting in mass mortality and morbidity of marine organisms has increased significantly (WRI, 2001).
- ◆ The projections of the Intergovernmental Panel on Climate Change (IPCC) note that continued use of fossil fuels will exacerbate global climate changes with severe consequences for ocean and coastal ecosystems. Forty-six million people per year are currently at risk of flooding from storm surges and, without adaptation measures, a 1-m sea-level rise might displace tens of million people in Bangladesh (IPCC, 2001).
- ◆ Food security for an increased human population drives the intensification of agricultural production and results in the increased application of fertilizers, pesticides, and herbi-

cides. For example, synthetic fertilizer use is predicted to more than double globally between 1990 (74 million tons/year of Nitrogen) and 2050 (182 million tons/year) (Seitzinger and Kroeze 1998; Kroeze and Seitzinger 1998). Atmospheric deposition, associated with the combustion of fossil fuels, is predicted to almost double (22 to 39 million tons/year) to terrestrial systems over that same time period, as is nitrogen in human sewage (9 to 16 million tons/year of Nitrogen). As a result, inorganic nitrogen inputs to coastal ecosystems are predicted to double (from 21 to 42 million tons/year of Nitrogen) (Kroeze and Seitzinger 1998). The increased inputs of nitrogen to terrestrial and aquatic systems will undoubtedly lead to increased human health and environmental degradation, including degradation of coastal ecosystems.

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, and the 1997 Special Session of the General Assembly reviewing the implementation of Agenda 21 urged national, regional, and international institutions to take action for the sustainable development of coastal and marine areas.

Three existing major international agreements incorporate the principles, objectives and actions needed to ensure the sustainable development and protection of oceans and coasts: The United Nations Convention on the Law of the Sea (UNCLOS); Agenda 21, in particular, Chapter 17, *Protection of the Oceans, All Kinds of Seas, Including Enclosed and Semi-Enclosed Seas, and Coastal Areas for the Protection, Rational Use and Development of Their Living Resources*; and the Rio Declaration on Environment and Development.

Following UNCED 1992, progress has continued in building the legal and institutional support for the sustainable development of oceans and coasts. New international agreements, such as the United Nations Fish Stocks Agreement, the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA), and the Jakarta Mandate of the Convention on Biological Diversity (CBD), have been concluded providing more detailed frameworks for addressing critical aspects of the sustainable management of the oceans, especially through better compliance and enforcement.

The importance of oceans and coasts for sustainable development has recently been restated by a series of global and regional intergovernmental and expert meetings. The Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (Reykjavik, 1-4 October 2001) has called for the adoption of the ecosystem approach in managing the world's fisheries. The Intergovernmental Review Meeting of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (Montreal, 26-30 November 2001) has given new impetus to the improvement of international coastal and oceans governance under ocean-related conventions and provided a specific plan of action for the control of sewage and for new sources of financing. The

Bonn Freshwater Meeting (Bonn, 3-7 December 2001) has focused on strategies that will help manage fresh water supplies and better address the interconnections between coastal areas and adjacent water basins. The Regional Preparatory Committees (PrepComs) to the World Summit on Sustainable Development (WSSD) have highlighted the importance of marine and coastal resources to the development of regional economies and have called for enhanced environmental protection. All the regional PrepComs held in preparation of the WSSD<sup>1</sup> highlighted the importance of developing at the WSSD specific initiatives for addressing oceans and seas, coastal zones, and fresh water and sanitation. In this regard, integrated coastal management (ICM) is recognized as the appropriate approach to ensure comprehensive management of land and bodies of water, ecosystem-based marine resource management, and integrated water resource management.

The World Summit for Sustainable Development, to be held in Johannesburg in September 2002, presents a unique opportunity to agree upon a limited number of targets as universal benchmarks for a focused action-oriented program addressing the main issues and causes of marine degradation, based on renewed political and financial commitments at all levels. Integrated coastal and ocean management approaches can help to generate the necessary multi-disciplinary and cross-sectoral frameworks needed to develop coastal and ocean areas appropriately, enhancing the welfare of coastal communities, while maintaining ecological integrity and biodiversity.

As is detailed in this report, significant progress has been made since UNCED in laying the groundwork toward sustainable development of the oceans—a new cluster of global agreements provide the direction for good governance of coastal and ocean use; many countries, both developing and developed, have experimented with various approaches to ocean and coastal management; significant funding, by both national and international donors has taken place; and a significant body of knowledge and practical experience on ocean and coastal management has been accumulated.

However, ocean resources and environmental conditions have continued to decline, and, unless oceans and coasts are given high priority by the world's governments, under present trends and circumstances, the outlook for oceans and coasts in the year 2020, leaves little room for optimism. Action is required now to correct the present course. As the world's population continues to grow and to concentrate in coastal areas, there will be even greater pressures on coastal and ocean resources. There is an alternative vision for the future—one of healthy and productive seas, clean coastal waters, and prosperous coastal communities. Given the pivotal role of oceans and coasts in global sustainable development, it is imperative that the World Summit develops the action plan needed to insure the sustainability and life-support functions of the world's oceans and coasts.

<sup>1</sup> ECE Regional Ministerial Meeting for the World Summit on Sustainable Development, Geneva, 24-25 September 2001; African Preparatory Conference for the World Summit on Sustainable Development, Nairobi, 18 October 2001; Regional Preparatory Conference of Latin America and the Caribbean for WSSD, Rio de Janeiro, 23-24 October 2001; and Asia - Pacific High Level Regional Meeting for the World Summit on Sustainable Development, Phnom Penh, 27-29 November 2001

## 2. OBJECTIVES AND CONDUCT OF THE CONFERENCE

The *Global Conference on Oceans and Coasts at Rio+10: Toward the 2002 World Summit on Sustainable Development: Assessing Progress, Addressing Continuing and New Challenges* was held at UNESCO in Paris from December 3-7, 2001.

The Conference addressed all aspects of oceans and coasts and their interrelationships. Recognizing that several specialized bodies of the United Nations were holding conferences assessing specific aspects of the marine realm, such as fisheries, in anticipation of the Johannesburg meeting, the Conference organizers decided to take an overall look at progress achieved on all aspects of oceans and coasts since UNCED. This comprehensive perspective is inspired by both UNCLOS which in its Preamble emphasized that *the problems of ocean space are closely interrelated and need to be considered as a whole*, and by Chapter 17 of Agenda 21 which emphasized that new approaches to marine and coastal area management are needed, *approaches which are integrated in content and precautionary and anticipatory in ambit*.

The aim of the Conference was to make a scorecard, as to where we are 10 years after Rio. The aim was to assess:

### How much has been achieved?

- ◆ What problems/constraints have been encountered?
- ◆ What lessons have been learned?
- ◆ What works and what does not?
- ◆ What trends are present now that were not present 10 years ago?
- ◆ What efforts need to be refocused or redirected? and,
- ◆ To make targeted recommendations for the global agenda for oceans and coasts for the next decade.

The conference was attended by 424 participants from 61 countries<sup>2</sup> and dependencies: 164 ocean experts from governments, 162 members of non-governmental organizations (including private sector, environmental organizations, academic/scientific groups), and 98 members of inter-governmental, international and regional organizations.

The Conference was jointly organized by a consortium of public and private institutions from governmental, intergovernmental, and nongovernmental sectors and was co-chaired by Dr. Patricio Bernal, Executive Secretary, Intergovernmental Oceanographic Commission (IOC), of UNESCO, and Dr. Biliana Cicin-Sain, Director, Center for the Study of Marine Policy (CSMP), University of Delaware, USA. The CSMP and IOC served as the Conference's Secretariats.

The Conference received funding and in-kind and travel support from a wide variety of governmental, nongovernmental, and intergovernmental organizations from around the world (See list on page ii).

The Conference was addressed by a number of Ministers and other Eminent Persons:

Hon. James C. Greenwood, *President, Global Legislators Organization for a Balanced Environment (GLOBE) International, and U.S. House of Representatives*

Hon. Seoung-Yong Hong, *Vice-Minister, Ministry of Maritime Affairs and Fisheries, Korea*

Hon. Herb Dhaliwal, *Minister, Department of Fisheries and Oceans, Canada*

Hon. Rokhmin Dahuri, *Minister, Ministry of Maritime Affairs and Fisheries, Indonesia*

Hon. Exequiel Ezcurra, *President, National Institute of Ecology, Secretary of Environment and Natural Resources, Mexico*

Hon. Otu-Ekong Imeh T. Okopido, *Minister of State, Federal Ministry of Environment, Nigeria, and Chairman of AMCEN*

Hon. José Sarney Filho, *Minister, Ministry of Environment, Brazil, presented by Ambassador Jose Israel Vargas*

Hon. Árni Mathiesen, *Minister, Ministry of Fisheries, Iceland*

Hon. Francisco Mabjaia, *Vice-Minister, Ministry for Coordination of Environmental Action, Mozambique*

Hon. Victor Kalyuzhni, *Deputy Minister of Foreign Affairs, Russian Federation, and Special Representative of the President in the Caspian Region*

Hon. Ni Yuefeng, *Deputy Administrator, State Oceanic Administration, China*

Hon. Roberto Tortoli, *Undersecretary, Ministry of Environment, Italy*

Hon. David Kemp, *Minister, Ministry for the Environment and Heritage, Australia, presented by Veronica Sakell, Director, National Oceans Office, Australia*

Ambassador Satya Nandan, *Secretary-General, International Seabed Authority, Jamaica*

Ambassador Mary Beth West, *U.S. Department of State*

Ambassador Tuiloma Neroni Slade, *Permanent Representative, Mission of Samoa to the United Nations, and Chair, Alliance of Small Island Developing States*

Ambassador Peter Stenlund, *Chair, Arctic Council Secretariat, Finland*

The Conference was concluded with a special address by: Hon. Rejoice T. Mabudafhasi, *Deputy Minister, Department of Environmental Affairs and Tourism, South Africa*, who specifically welcomed delegates to participate in the Johannesburg Summit.

<sup>2</sup> Participants came from the following countries/dependencies: Australia, Bangladesh, Barbados, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Comoros, Costa Rica, Croatia, Cuba, Denmark, Fiji, Finland, France, Germany, Greece, Guyana, Iceland, India, Indonesia, Israel, Ireland, Italy, Jamaica, Japan, Kenya, Korea, Malaysia, Malta, Mauritius, Mexico, Mozambique, Netherlands, New Caledonia, Nigeria, Norway, Palau, Philippines, Poland, Portugal, Russian Federation, Samoa, Senegal, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Turkey, Ukraine, Uruguay, United Kingdom, United States of America.

The Conference heard presentation of papers and panel discussions on the following topics:

Panel 1—Ministerial Perspectives on Oceans and Coasts at Rio+10

Panel 2—Implementation of International Agreements on Oceans and Coasts and Their Harmonization

Panel 3—Patterns and Issues in Donor Investments in Oceans and Coasts

Panel 4—The State of the Ocean Commons: Results of Major Ocean Research Programs

Panel 5—Biodiversity, Critical Habitats and Species at Risk

Panel 6—Integrated Coastal Management (ICM). Conditions and Efforts: Global and Regional Perspectives

Panel 7—Private Sector Initiatives for Sustainable Development and Conservation of Oceans and Coasts

Panel 8—Integrated Coastal Management (ICM). Tying Efforts to Outcomes: National and Local Perspectives.

Panel 9—National Ocean Policy—EEZ Planning and Management

Panel 10—Fisheries and Aquaculture: A Sustainable Use Perspective for Areas of National Jurisdiction and the High Seas

Panel 11—Present Status and Future Directions in Marine Protected Areas

Panel 12—Status of and Prospects for the Marine Environment

Panel 13—Issues in Small Island Developing States

Panel 14—Building Capacity for Improved Ocean and Coastal Management: A Roundtable

Panel 15—The Regional Scale of Ocean Governance: Examining Key Ingredients for Success in Regional Cooperation

Panel 16—Emerging Issues in Ocean and Coastal Management

Panel 17—Improvements in Global and Regional Ocean Governance

The Conference considered the information presented in these panels and the discussions held by eight Working Groups during the conference to discuss the following topics:

Working Group 1—Harmonizing International Agreements, Governance Improvements, Regional Perspectives, and Emerging Issues

Working Group 2—Targeting Donor Aid

Working Group 3—Assessing and Managing the Marine Environment

Working Group 4—Marine Biodiversity and Protected Areas

Working Group 5—Integrated Ocean and Coastal Management

Working Group 6—Sustainable Fisheries and Aquaculture

Working Group 7—Small Island Perspectives

Working Group 8—Capacity Building

This Co-Chairs' Summary is based on the papers presented at the conference, the panel discussions, the Working Group reports, and background materials prepared by the Secretariat. The Co-Chairs' Summary has been prepared by the Co-Chairs, with the advice of the Conference Executive Committee, and it does not necessarily reflect the views of all the Conference participants.

The report identifies concrete actions that could be taken by governments, international organizations, and others to address outstanding issues on oceans and coasts in the World Summit on Sustainable Development process.

The report also takes into account the results of the preparatory work to the WSSD and in particular the African Regional Preparatory Process, and builds on the results of the Reykjavik Conference on Responsible Fisheries, the Montreal Intergovernmental Review of the GPA, and the Bonn Water Meeting.

Discussions from the conference have been summarized by *The Earth Negotiations Bulletin* and may be found at <http://www.iisd.ca/linkages/sd/ocrio+10>. An interactive discussion of the results of the Conference is taking place at <http://icm.noaa.gov>.

### **3. MAJOR ACCOMPLISHMENTS AND CONSTRAINTS AT THE GLOBAL LEVEL SINCE UNCED**

#### ***A. Review of the Implementation of Chapter 17 of Agenda 21***

Chapter 17 of Agenda 21 stresses both the importance of oceans and coasts in the global life support system and the positive opportunities for sustainable development that ocean and coastal areas represent. Seven major program areas are included in Chapter 17: (a) integrated management and sustainable development of coastal areas, including Exclusive Economic Zones, (b) marine environmental protection, (c) sustainable use and conservation of marine living resources of the high seas, (d) sustainable use and conservation of marine living resources under national jurisdiction, (e) addressing critical uncertainties in management of the marine environment and climate change, (f) strengthening international, including regional, cooperation and coordination, and (g) sustainable development of small islands.

Progress in achieving the objectives of Chapter 17 is reported for all program areas. Significant progress has been achieved over the past decade in promoting an integrated approach to coastal management. Both the precautionary approach and the ecosystem-based approach have been progressively incorporated into measures to achieve marine environmental protection. A great deal of progress has been achieved in the area of responsible fisheries development and management as a result of UNCLOS and the adoption of a number of complementary international instruments and voluntary agreements. The past 10 years have seen a turning point in terms of understanding and measuring the role of the oceans in global climate change and in developing the observational tools needed to forecast change. International cooperation on the oceans has developed new modes of action and thinking, including the establishment of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) in 2000 (UN, 2001).

It is very clear that significant progress and institutional change has been achieved since the Rio Earth Summit (Cicinsain and Bernal, 2001). This has been manifested in four major ways:

- a) The adoption and implementation of a number of major ocean agreements
- b) New funding of initiatives in ocean and coastal management
- c) Many new actions by governments at national and local levels
- d) Significant progress in the development of scientific knowledge, data, and information systems on oceans and coasts

### International Agreements

Following UNCED, a number of conventions, agreements, and programs of action have been negotiated, adopted, or entered into force to address different ocean and coastal issues (see Table 1). In addition, the *precautionary approach* and the *polluter pays principle*—endorsed at UNCED—are now widely recognized and used as key elements in the development of international environmental law in the protection of ocean and coasts.

**Table 1—Development of International Oceans Agreements post-UNCED**

Theme	Agreement	
Law of the Sea	United Nations Convention on the Law of the Sea (UNCLOS)	1994 (entry into force)
	International Seabed Authority (ISBA)	1996 (operational)
	International Tribunal on the Law of the Sea (ITLOS)	1997 (operational)
	Commission on the Limits of the Continental Shelf (CLCS)	1997 (operational)
Marine environment	Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships	1993
	Convention on the Protection of the Black Sea against Pollution	1994
	Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)	1995
	Agreement establishing the South Pacific Environment Programme (SPREP)	1995 (into force)
	International Convention on Oil Pollution Preparedness and Response Protocol to the London Convention	1995 (into force) 1996
	Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region	1996 (into force)
	Declaration on the Establishment of the Arctic Council	1996
	Annex VI to MARPOL 73/78 on Regulations for the Prevention on Air Pollution from Ships	1997
	Convention for the Protection of the Marine Environment of the North East Atlantic	1998 (into force)
	OSPAR and Helsinki Convention	1998 (into force)

<b>Theme</b>	<b>Agreement</b>	
Marine environment <i>continued</i>	Protocol on Environmental Protection to the Antarctic Treaty	1998 (into force)
	New timetable for Annex I to MARPOL 73/78 (Oil Discharges) for phasing out single hull oil tankers	2001
	International Convention on the Control of Harmful Antifouling Systems on Ships	2001
	Stockholm Convention on POPs	2001
Marine safety and liability	International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea	1996
	Liability Protocol to the Basel Convention	1999
	International Convention on Civil Liability for Bunker Oil Pollution Damage	2001
Sustainable use and conservation of marine living resources	Agreement to Promote Compliance with International Conservation and Management Measures by Vessels Fishing in the High Seas (“Compliance Agreement”)	1993
	New regional fisheries management organizations established or in preparation (Helsinki Convention, Commission for the Conservation of the Southern Blue Tuna—CCSBT, South East Atlantic Fisheries Organization—SEAFO, West and Central Pacific Organization, Convention for the Conservation and Management of Pollock Resources in the Central Bering Sea)	After 1993
	Code of Conduct for Responsible Fishing and four related International Plans of Action (IPOAs)	1995
	Agreement on of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (“Fish Stocks Agreement”)	2001 (entry into force)
Marine biodiversity	Jakarta Mandate on the “Conservation and Sustainable Use of Marine and Coastal Biological Diversity”	1995
	International Coral Reef Initiative (ICRI)	1995
	Annex VI to OSPAR Convention	1996
	Protocol on Specially Protected Areas and Biological Diversity in the Mediterranean	1996
	Cartagena Protocol on Biosafety	2000
Sustainable development of small islands	Barbados Programme of Action for the Sustainable Development of Small Island Developing States	1994
Deep seabed mining	Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982	1994
	Regulations on prospecting and exploration for polymetallic nodules in the international seabed area	2000
Underwater cultural heritage	Convention for the Protection of the Underwater Cultural Heritage (UNESCO)	2001
River basins	ECE Convention on Transboundary Lakes and Rivers	1992
	UN Convention on the Non-navigational Uses of International Watercourses	1997



## New Funding

In the last decade, significant new funding for coastal and marine programs and activities has been provided by many multilateral and national donors, and financial institutions such as the World Bank, the Asian Development Bank, the Inter-American Development Bank, SIDA, CIDA, JICA, DANIDA, USAID, among many others. In Latin America, for example, the investments by international donors in coastal management between 1992 and 2000 totaled approximately \$1.3 billion (Rivera-Arriaga, 2001). The World Bank strategy for coastal and marine areas has entailed investments of the order of \$500 million in Africa (Hewawasam, 2001) and of \$175 million in lending operations in the Asia-Pacific region. The Asian Development Bank has invested \$1.2 billion for marine resources projects in the Asia-Pacific region (King 2001).

The restructuring of international funding mechanisms led to the establishment of the Global Environment Facility (GEF) and related programs (GEF 2001):

- ◆ The International Waters initiative has funded 53 projects totaling \$438 million between 1991 and 2000, operationalizing an integrated approach to river basin and coastal/marine management.
- ◆ The Biodiversity Initiative has funded 58 projects totaling \$244 million through 2000 to protect coastal, marine, and freshwater ecosystems.
- ◆ The Climate Change initiative has funded many projects to assist small island developing nations in addressing impacts from climate change, totaling \$60 million by 1999.

## National Efforts at Integrated Coastal Management

Following UNCED, national and subnational governments have undertaken many initiatives to protect and develop coastal and marine areas and to build capacity for integrated coastal and management. In 1993, there were 59 nations engaged in ICM initiatives at national and/or local levels (Sorensen 1993). In 2000, there were 98 nations engaged in ICM initiatives at national and/or local levels (Cicin-Sain et al., 2001). In terms of institutional changes, in 2000, a recent study noted that 46 percent of coastal countries have enacted coastal-related legislation, while 42 percent of countries report having some sort of coordinating mechanism for ocean and coastal management (Cicin-Sain et al, 2001). There are, however, significant regional differences in the way nations approach ICM; for example, regarding the distribution of authority and responsibility between national and subnational authorities, the influence of external donors, the number of demonstration or pilot projects, and the role of regional organizations in promoting ICM.

## Significant progress in the development of scientific knowledge, data, and information systems on oceans and coasts

One of the major lessons learned since UNCED is that the transition towards sustainable development must be science-based and supported by the appropriate engineering and technology.

The past 10 years have seen a turning point in terms of the understanding the role of the oceans in global climate change. With significant improvements of models and technology to monitor climate changes, the scientific community has been able to narrow the level of uncertainty on many ocean processes. The collection of previously unavailable information is now being organized and utilized through a concerted interagency and intergovernmental effort to continuously monitor the major planetary processes. The building of the institutional framework for developing the much-needed Earth System Science is well underway. The World Climate Research Project, the International Geosphere and Biosphere Programme and the International Human Dimensions Programme on Global Environmental Change are visible testimony to this success.

The success of these programmes hinges upon the existence of a number of high quality worldwide observational networks. In order to acquire the critical data necessary for understanding global change, these networks need to be maintained and sustained in time. The full and open exchange of environmental data that is essential for the protection of life-supporting natural systems, is a principle that calls for universal recognition.

Since 1998, the three UN-sponsored Global Observing Systems, the Global Ocean Observing System (GOOS), the Global Terrestrial Observing System (GTOS) and the Global Climate Observing System (GCOS) have been working together as part of a single Integrated Global Observing Strategy (IGOS), in partnership with national space agencies, for better observation of the atmosphere, oceans and land.

Answering a call from Agenda 21, the Global Ocean Observing System (GOOS) is being developed by UNESCO/IOC together with the WMO and the International Council of Scientific Unions (ICSU). With an initial system already operating, GOOS is capable today of predicting El Niño and other ocean phenomena and is responsible for producing a large and open data stream from the ocean for weather and climate forecasting.

A crucial role in developing global governance for sustainable development is the establishment of authoritative statements based on scientific assessments. The Intergovernmental Panel on Climate Change (IPCC), jointly sponsored by UNEP and WMO has been very successful in this regard. The new report by the IPCC, released in 2001, found there is new and stronger evidence that most of the global warming observed over the last 50 years is attributable to human activities. Floods, drought and extremely high tem-

peratures could threaten the life and livelihoods of millions of people living in low-lying coastal areas. Residents of small island developing States would be most at risk from warmer temperatures and rising sea levels, while the degradation of coastal habitats including coral reefs could accelerate.

## **B. Major Problems and Constraints Faced**

Despite the positive progress in the last decade in implementation of Chapter 17 of Agenda 21, problems and constraints still remain hindering the achievement of sustainable ocean and coastal development.

As noted earlier in section 1, the “on-the-ground” condition of coastal and ocean resources is one of the declining trends that are cause for significant concern and call for immediate action by nations and governing bodies worldwide.

In addition, a number of other factors—related to the implementation of efforts at coastal and ocean management at international, regional, and national levels—prove problematic. These can be summarized as follows (Mabudafhasi 2001):

- ◆ Increased fragmentation and lack of coordination among international conventions and institutions;
- ◆ Complexity of the governance systems, emerging from this pattern of institutionalization, hindering the participation and ownership by developing countries;
- ◆ Shortcomings in the results of international conventions due to the lack of appropriate compliance and enforcement mechanisms;
- ◆ Development institutions under-funded and often ineffective;
- ◆ Donor funds not always aligned to developing country priorities; and
- ◆ Poor implementation of the international Agenda development targets.

The coordination and harmonization of international agreements has been made difficult by a series of factors. These include: (a) excess of zeal in the protection of the individual mandates inhibiting cooperation; (b) insufficient attention given to the need of harmonizing national reporting, which represents a heavy burden on many countries, especially small developing countries; (c) insufficient implementation and coordination of efforts at the national level; (d) lack of coherent national policies; (e) inadequate and inconsistent compliance and enforcement at the national level because of the absence of adequate financial resources, access to technical expertise, and appropriate legislation and institutional frameworks; (f) insufficient use of environmental and performance indicators to measure the effectiveness of the agreements; (g) the budgetary constraints of most secretariats of international agreements (UNEP, 2001).

Donor funding has been constrained by: (a) lack of awareness, which translates into lack of political will; (b) ocean and coastal related agencies, being at an early stage of development, do not receive adequate financial or other resources; and (c) lack of ability to conceptualize and develop viable projects. While international support for integrated ocean and coastal management initiatives around the world has increased significantly, challenges have persisted at many different levels, posing obstacles to implementation. These challenges include problems of governance, single-issue orientation and limitations in scope and financing. While UNCED emphasized the interconnection of environment and development issues, the focus of donor aid is often tied to a single issue, whether biodiversity, vulnerability to climate change, or addressing coastal erosion. Typically, there are many such “single issue” projects funded by multiple donors in the same national context that are characterized by the scarcity of domestic resources, and results in few connections among the projects. The challenge is to create synergy among such projects by establishing clear incentives built into the funding process so that they are woven into a comprehensive integrated coastal and ocean management effort (Working Group 2 Report, 2001).

Over-fishing and over-capacity—exacerbated by technological progress—remain a problem worsened by illegal, unregulated and unreported (IUU) fishing, poor gear selectivity, and discarding both on the high seas and within Exclusive Economic Zones (EEZs). The problem is sometimes compounded by the low capacity of some developing countries to effectively control the fishing operations of long-range fleets operating under access agreements, and by the lack of measures to prevent the reflagging of vessels to avoid rules of regional fishery management organizations (RFMOs). In this regard, the World Trade Organization (WTO) should coordinate and support the efforts by the RFMOs to deter and eliminate IUU fishing. These factors not only jeopardize the natural recovery of such fish stocks, but also threaten the cultural heritage and cause extreme social and economic hardships on small fishing families, coastal people, and indigenous peoples in particular (Working Group 6 Report, 2001).

In terms of marine and coastal protected areas, while the oceans comprise over 70% of the earth’s surface, less than 1% of the marine environment is within protected areas, compared with nearly 9% of the land surface. Management of these areas is mixed, since many marine protected areas are only “paper parks” (Ehler, 2001; Working Group 4 Report, 2001).

Despite substantial efforts in education and training, insufficient local capacity remains a major barrier to meaningful implementation of ocean and coastal management programs. Possibly there has been too much emphasis since 1992 on formal education and training (university degrees, short courses, etc. typically taken abroad) and not sufficient emphasis on building a critical mass of practitioners and other key stakeholders and providing them with the enabling conditions and

continued support they need to develop and implement programs. Capacity building programs also seem to have concentrated on technical and scientific material rather than a broader coverage taking in areas such as policy matters, decision making methods, institutional capacity building and the formation of true partnerships between groups. In addition, capacity programs have not specifically targeted under-represented groups such as women and youth. The still high “failure” rate of sustaining coastal and marine projects after donor support ends, the apparent “added-on” nature of many training programs, the heavy reliance on outside expertise in coastal management projects in developing countries and the continued use of non-local examples in training programs suggests that meaningful capacity-building remains today as an urgent and essential action item for achieving sustainable development in coastal regions (Working Group 8 Report, 2001).

## **4. DISCUSSION OF MAJOR OCEAN AND COASTAL ISSUES**

### **A. Poverty Reduction and Healthier Coastal Communities**

#### **Issue**

More than half of the world's population currently lives within 100 km of the coast, and by 2025 it is estimated that 75% of the world's population, or 6.3 billion people, will live in the coastal zone, concentrated in coastal megacities and many living in poverty on less than two dollars a day.

Poverty reduction during the coming decade will require increased access to sustainable economic livelihoods and wealth derived from the ocean, and development of safer, healthier coastal communities. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute water supplies and coastal waters. 250 million clinical cases of gastroenteritis and upper respiratory diseases are caused annually by bathing in contaminated sea water (GESAMP, 2001).

A key to poverty reduction and the attainment of healthier coastal communities is through the establishment of programs in integrated coastal management (ICM) which are designed to guide ocean and coastal development while maintaining (or achieving) environmental quality. ICM is intended to achieve sustainable development of coastal and marine areas, to reduce vulnerability of coastal communities to natural hazards, and to maintain essential ecological processes, life support systems, and biological diversity. ICM addresses implications of development, conflicting uses, and interrelationships among physical processes and human activities, and promotes linkages and harmonization between sectoral coastal and ocean activities. It is essential that ICM include the major economic activities related to ocean and coastal resources which can provide sources of livelihood to coastal residents—especially fishing, tourism, and aquaculture.

Fishing remains the most widespread economic activity in the ocean in many regions in the world. The future integrity of coastal communities and of the world's food security is directly curtailed due to decline of resources; it is therefore essential to assist communities in the generation of alternative livelihoods.

Coastal tourism is a major economic activity in many developing country contexts and, as is well known, it must be properly managed to ensure, inter alia, proper siting of tourist facilities to avoid coastal erosion and environmental damage. Incentives must be put in place for local populations to directly benefit from tourism.

Aquaculture, a growing practice in many developing countries, must be properly planned, sited, and monitored to avoid typically-occurring problems of pollution and resulting land loss for other coastal uses.

Public health in coastal communities must be enhanced, especially through the financing and operation of proper sewage treatment facilities.

Another factor contributing to poverty are ocean-related natural disasters, which include the effects of extreme El Niño events, long-term sea level rise, tropical cyclones and their associated waves, storm surges and flooding, and tsunamis, which have their maximum impacts in coastal areas and small islands. These impacts can result in massive loss of human life and property as well as in the destruction of coastlines and natural habitats. Restoration measures from disasters cost millions of dollars annually to developing and developed countries alike.

#### **Vision**

The UN Millennium Declaration calls to halve, by 2015, the proportion of very poor people in the world, and to reduce the scourge of diseases like malaria and water-borne infections. This is perhaps one of the most difficult challenges facing the use of the oceans.

Meeting these needs requires new commitments to making the benefits of trade and globalization available to coastal communities, participatory management of resources, programs specifically targeted to reducing vulnerability of coastal people and infrastructure, and commitments to full participation of women and youth in decision-making and activities related to locally-based coastal and ocean decisions.

#### **Achievements**

In many contexts, ICM programs are effective in providing a governance framework for multiple-use coastal and ocean management. These programs, however, must be of an appropriate scale to guide the development of important economic activities such as tourism and aquaculture, which is difficult to achieve in some cases where ICM encompasses only a small part of a nation's coastal zone.

The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) pro-

vides a useful framework for developing countries to combat coastal pollution and the associated health hazards, emanating from municipal sewage systems and other land-based sources. Protocols, guidelines and targets are being established through the development of National Plans of Action.

Progress has been made in the area of responsible fisheries development and management as a result of the coming into force of UNCLOS in 1994 and the adoption of a number of complementary international instruments and voluntary agreements, most notably the Fish Stocks Agreement that entered into force on 11 December 2001.

A number of regional fishery management organizations (RFMOs) have undertaken a systematic review of their mandate and functioning with the view to improving their performance in management. Cooperation among governments, non-governmental organizations and industry has led to the elaboration of a series of Guidelines in support of the Code of Conduct for Responsible Fishing in the areas of sustainable aquaculture, fisheries operations, fishery management, fish processing and trade, precautionary approach, and indicators of sustainable development in fisheries, including species introductions. Guidelines are also under preparation for ecosystem-based fisheries management. Significant progress toward such guidelines has been made in some nations (Working Group 6 Report).

### **Constraints and Challenges**

There is a strong need to address poverty reduction through sustainable development in ocean and coastal regions by strengthening the ability of nations to identify and examine in a systematic manner, the interdependencies between poverty, the many types of ocean-based livelihoods and the current management practices of ocean and coastal resources. This in turn may: (a) reduce people's vulnerability to risks by getting information to poor communities and empowering them to adapt; (b) enhance livelihoods of poor people by helping them to secure access to resources and markets and strengthening their ability to use those resources sustainably; and (c) improve people's health by raising their awareness of and reducing their exposure to environmental factors.

### **Key Recommendations (A)**

**1.1** Establish and implement programs in integrated coastal and ocean management to guide development opportunities in coastal areas of developing countries while maintaining or achieving environmental quality.

**1.2** Target donor aid more explicitly to achieve poverty reduction/public health improvement in coastal areas of developing countries, for example:

– Encourage the GEF to analyze how project proposals funded under the GEF will address poverty alleviation/public health gains.

– Encourage donors to set up a “Small Project Fund” for addressing ocean and coastal issues. “Small grants” of usually less than \$25,000 per project can be useful sources for: (a) capacity building, particularly among local authorities and nongovernmental organizations; (b) dissemination of good practice; (c) preparation of larger project proposals; and (d) demonstration projects to promote sustainable livelihoods.

**1.3** Recognize sustainable aquaculture and responsible fisheries as parallel and essential elements of a common strategy to ensure global seafood security and fill the supply gap forecasted for the next decade. In cases where fishing must be curtailed due to decline of resources, it is essential to assist communities in the generation of alternative livelihoods.

**1.4** Focus on innovative approaches to small-scale fisheries and aquaculture, empowering the sector, establishing fishing rights including access to necessary infrastructure to support livelihoods and tenure systems, integrating fisheries into coastal management, and taking account of the interactions and compatibilities between aquaculture and harvest fisheries.

**1.5** Support the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, and in particular the Strategic Action Plan on Municipal Wastewater.

**1.6** Prevent destruction, loss of human lives and associated costs through appropriate forecasting, early warning, prevention, preparedness, and mitigation measures of ocean-related natural disasters.

## ***B. Implementation and Compliance with International Agreements***

### **Issue**

The significant number of international agreements that have come into effect since 1992 now need to be properly implemented and enforced, and their implications for national level action more fully addressed. There is an urgent need for better cooperation and coordination among regional and international bodies governing oceans and fisheries to ensure harmonized and efficient implementation.

The sheer number of different treaty and legal regimes affecting marine and coastal issues, each with its own governance arrangements, risks non-coordination and wasteful duplication of efforts. In a few key areas, small improvements in coordination could significantly enhance compliance and enforcement. Clusters of related conventions could start to be jointly implemented in the short term, with no additional institutions and little restructuring. Such clusters could benefit from co-location of secretariats and agencies especially in the regions, with consequent coordination of work on substantive issues, including the work of their scientific bodies, as

well as cooperation on thematic, functional, and crosscutting issues. Existing environmental (UNEP), fisheries (FAO), and science (IOC) regional organizations could meet regularly in joint sessions improving coordination of their programs. Clusters could also help coordinate and streamline national reporting requirements by identifying key indicators for common reporting so as to reduce the burden on developing states and to leverage reporting incentives over different regimes (Freestone, 2001).

### **Vision**

Coordination between global and regional bodies should exploit the comparative advantages of each. Global agreements have a major role in agenda setting, in identifying synergies as well as lacunae in the existing systems and in identifying new issues and approaches. Regional or ecosystem-based arrangements are crucial for successful implementation. They rely heavily on the commitment of member countries and can more effectively translate global agendas into regional action, be sensitive to particular regional needs and priorities, and exploit important regional synergies. In order for countries with limited human and financial capacity to participate effectively in the plethora of legal instruments and agreements, whenever feasible, efforts could be made to encourage individual country representation to be delegated to the regional level (Kimball, 2001).

### **Achievements**

Since UNCED 1992, important progress has been made towards sustainable ocean governance: (a) A number of international agreements, voluntary instruments, and programs of action on oceans and coasts have been negotiated and/or come into force; (b) there have been evolving new approaches to ecosystem management; (c) regional instruments and programs continue to develop; (d) new actions have been undertaken by national authorities; and (e) considerable discussion on international mechanisms for cooperation on oceans issues has taken place.

### **Constraints and Challenges**

Despite considerable progress, persistent challenges still remain. At the global level, there is a need to consider to develop new instruments in some cases and to ensure full ratification, full implementation, and enforcement, as well as harmonization of multilateral agreements on oceans and coastal areas and greater cooperation and coordination of inter-governmental institutions. Regionally and nationally, there is a need to harmonize coastal and ocean activities through integrated frameworks for the planning and management of coastal areas and exclusive economic zones. At all levels, there is a need to achieve greater transparency, participation, and accountability in decision making on oceans and coasts.

### **Key Recommendations (B)**

- 2.1** Develop a common Global Vision for Oceans, Seas, and Coasts which provides the goals and objectives for the governance of the oceans and coasts, to which the multitude of international regulatory regimes and institutions contribute.
- 2.2** Promote transparency, participation, and accountability in decision-making on oceans and coasts at all levels.
- 2.3** Undertake a broad diplomatic process for wider ratification and implementation of multilateral agreements related to oceans and coasts, and develop strategies for insuring peace and security of oceans and coasts, including peaceful settlement of ocean disputes.
- 2.4** Promote joint implementation of clusters of international legal instruments and programs addressing oceans at global, regional and national levels, through, for example: memoranda of understanding among governing bodies, joint work of scientific bodies, joint consideration of related agreements, and joint work programs.
- 2.5** Streamline national reporting around clusters of international legal instruments and programs addressing oceans and coasts.
- 2.6** Encourage the creation of national ocean and coastal councils to formulate national policies on oceans and coasts and to implement, in a coordinated fashion, clusters of international agreements on oceans and coasts.
- 2.7** Regional scales of ocean governance should be recognized and promoted as an essential approach to pursue the sustainable development of oceans and coasts and to integrate global approaches with local ones.

## **C. Capacity Building for Governance of Ocean and Coastal Areas**

### **Issue**

Scientific advances and technology development will continue to open untapped potential for use of coastal, offshore and Exclusive Economic Zones, and deep ocean areas. Yet our understanding of the role and vulnerability of these resources and habitats is still limited. All countries, rich and poor, lack the needed capacity to manage even the existing level of development in a well-integrated way.

Thus the capacity of local and national governments to apply effective institutional and legal frameworks for integrated coastal and ocean management must be strengthened. This will enable them to pursue opportunities for economic development in the coasts and oceans while protecting their ecological integrity and biodiversity. It will require, among other things, raising public awareness of coastal and ocean issues, the re-targeting of financial assistance to take into

account lessons learned from experience, and building of the capacity of the educational institutions of coastal nations. Capacity building is required within governments, local communities, and NGOs, as well as to enable effective involvement of the private sector.

### **Vision**

Integrated ocean and coastal and management should be promoted as an effective framework that facilitates good governance, especially by increasing accountability, transparency in decision making, as well as the alleviation of poverty through ensuring alternative sustainable livelihood options for local coastal communities, and enhancing food and economic security. To this end, enabling conditions for investment opportunities within the context of sustainable development must be established (Working Group 5 Report).

### **Achievements**

Since 1992, there have been increased interventions in coastal and marine resource management worldwide, both in the formulation and improvement of policy and institutions, and in the design and implementation of management programs and projects. As noted earlier, there are currently close to 100 coastal nations that have developed some type of integrated ocean or coastal management initiatives either at national or local levels, indicating almost a doubling of effort since UNCED. It is significant to note that most initiatives in less developed nations have been supported by the donor community, often as a means of addressing serious poverty problems in coastal areas.

### **Constraints and Challenges**

Notwithstanding the extensive institutional development that has taken place, along most coasts, the environmental trends remain negative. Human activities have, and continue to significantly reduce the capacity of coastal ecosystems to produce the goods and services that together are the life support system for increasing populations and intensities of coastal use. Not only are the qualities of the natural environment under assault, but so are the health and well being of millions of people who depend on coastal resources as their primary source of food and income. Numerous efforts have been undertaken, but integrated coastal management at the local scale will not flourish unless national governments provide national enabling conditions, including policy, legislation, and coordinating mechanisms. Success in scaling up integrated coastal management and successful sustained local efforts require governance systems that can produce mutually reinforcing and integrated planning and decision-making that ranges from individual communities to provinces, nations, and to collaborative regional efforts.

### **Key Recommendations (C)**

**3.1** Involve both the national and subnational levels of government in the development and implementation of integrated coastal management programs, avoiding exclusive reliance on pilot projects which often do not “scale up” to include other parts of the coastal zone.

**3.2** Increase the capacity of local governments and community-based groups to manage coastal and marine areas with appropriate scientific inputs and participatory processes.

**3.3** Take decisive actions to ensure effective management measures for the coastal areas of each nation, moving from the implementation of demonstration projects to a more complete coverage of each nation’s coastline, by committing to working toward the following targets:

- 20% of national coastlines under management by 2012
- 60% of national coastlines under management by 2022
- 100% of national coastlines under management by 2032

**3.4** Promote the formulation of policies for the management of exclusive economic zones (EEZ) as a new frontier to maximize the economic return from ocean resources, in particular through the development of common visions for sustainable development across all ocean sectors using an ecosystem-based approach and the setting of national and regional ocean management objectives and priorities.

**3.5** Encourage donors to create synergy among many “single issue” projects (such as biodiversity, coastal erosion) funded by multiple donors in the same national context which often operate with few connections among them, and to weave these into a comprehensive coastal management effort.

**3.6** Promote good practice and performance measurement standards for donor-funded projects in integrated coastal management and encourage progress and accountability at all levels.

**3.7** Improve the interconnection between education and training in integrated coastal management to allow for more systematic capacity building in the field. To this end, donors and governments should consider the establishment of regional consortia of local universities on integrated coastal management.

**3.8** Promote the development of Regional Partnership aimed at improving the management of coastal and marine resources, following successful cooperation models such as the African Process for the Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa recently endorsed by the Summit of the Organization of African States and the African Regional Preparatory Process for WSSD.

## **D. Protection of Coastal and Marine Areas and Biodiversity**

### **Issue**

Coastal and marine biodiversity are subject to increasing pressures from multiple and often competing human activities. The diversity of coastal and marine species is declining or under threat of extinction: out of 126 species of marine mammals, 88 are on the threatened species list and 70% of the world coral reefs are threatened.

### **Vision**

The conservation of coastal and marine biodiversity requires the involvement of all interested parties, the adoption of the ecosystem approach in resource management, and a variety of measures, including the establishment of networks of marine protected areas and no-take zones incorporated into integrated coastal management and fisheries management strategies.

### **Accomplishments**

In the last decade, the Convention on Biological Diversity has established itself as the recognized forum for the development of policy measures for biodiversity, reinforced, for the coastal and marine component, by the Jakarta Mandate and the promotion of ICM as a governance framework. The 2000 Cartagena Protocol attached to the CBD addresses issues with genetically modified organisms. Other achievements include the establishment of a clearinghouse mechanism, the 1995 Global Biodiversity Assessment, the 1995 International Coral Reef Initiative, and the 2001 Ecosystem Assessment. Increased use of coastal and marine protected areas (MPAs) for biodiversity conservation and fisheries management is to be lauded, but it remains inadequately applied at the ecosystem level. Currently, there are more than 1,300 MPAs in the world. Increasingly, MPAs are being created as part of systems of coastal management – a key tenet of national ocean policy planning – moving beyond MPAs as isolated islands of conservation to work at the watershed and ecosystem scale.

### **Constraints and Challenges**

Despite the concentration of efforts and resources in data collection and processing, there is yet no sufficient information and knowledge on coastal and marine biodiversity to properly inform decision-making. Consumption patterns and anthropogenic pressures continue to grow with little promise for reversing the trend. The increasing reliance on coastal and marine resources creates a feedback loop that harms both communities and the richness of species. The management of coastal and marine resources is still prevalingly sectoral, which impedes the consideration of biodiversity as a crosscutting theme in development instruments. The integration of the CBD into the WTO process to reflect the real value of ecological processes and the role of species in maintaining them remains insufficient. Concerning marine protected areas,

while the oceans comprise over 70% of the earth's surface, less than 1% of the marine environment is within protected areas, compared with nearly 9% of the land surface, and management of these areas is mixed, many are only "paper parks." Also, fisheries and aquaculture and MPA communities often have little interaction and efforts are needed to better integrate MPAs in ICM programs.

### **Key Recommendations (D)**

- 4.1** Consider a timetable and specific resource commitments to further implement the Jakarta mandate on marine and coastal biodiversity under the CBD.
- 4.2** Develop an internationally accepted marine biodiversity classification system for the marine realm that supports the development of a rationale for MPA systems within jurisdictions.
- 4.3** Establish and expand a comprehensive global representative network of marine protected areas that includes regional and national systems of highly protected/no take areas for the maintenance of connectivity and corridors.
- 4.4** Ensure the effectiveness of existing MPAs through the development and application of performance measures
- 4.5** Incorporate marine protected areas into an overall integrated coastal and ocean management system using the social sciences to enhance the participatory process, and assess and address impacts on local human communities.
- 4.6** Consider establishing MPAs or special conservation areas in the high seas in areas under threat, such as seamounts.

## **E. Monitoring and Assessment of the Marine Environment**

### **Issue**

Coastal ecosystems are increasingly and inadvertently being altered by human activities. The production of food and energy and the pressures of human population are directly linked to these alterations and some attempts at direct manipulation of the coastal as well as open ocean environments are now underway without adequate management and regulation. The world ocean plays a fundamental role in controlling atmospheric climate. In turn, climate variability and global climate change affect human activities and the marine environment. The effective management of coastal and oceanic ecosystems in this changing environment will require the causes and effects of these changes to be fully understood.

Eighty percent of marine pollution comes from land-based sources. In the developing world, more than 90% of sewage and 70% of industrial wastes are dumped untreated into surface waters where they pollute water supplies and coastal waters. It is thus important to recognize that the health of oceans and coasts is directly linked to the proper management of river basins, including freshwater flows to the marine environment.

### **Vision**

A major challenge for the next decade is formulation and implementation of comprehensive environmental policies for integrated management of the marine environment and its natural resources. Meeting this challenge requires (a) significant advances in the acquisition, analysis, and synthesis of interdisciplinary environmental data, and (b) the establishment of mechanisms to enhance the exchange of data and information between the science and management communities. A central element is the implementation of an operational observing system that is adequate for the detection of changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting techniques to achieve operational capabilities analogous to weather prediction (Working Group 3 Report).

Ecosystem approaches that link management of river basins to marine ecosystems, such as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, must be effectively implemented. This is especially important in the context of coastal megacities (70% of cities over 8 million people are coastal), such as Lagos, Nigeria—where 65% of the estimated 13.4 million people live in poverty.

### **Accomplishments**

Success has been achieved in several different areas since the Earth Summit. A number of initiatives have been taken by the intergovernmental agencies, which will provide a framework for the global application of scientifically based and

coordinated action. Some of these are the Global Ocean Observing System (GOOS)—introduced by the IOC in 1991 and co-sponsored by WMO and UNEP; the Global Coral Reef Monitoring Network (GCRMN); the UNEP Regional Seas Program; the Large Marine Ecosystems (LME) projects; and the Global International Water Assessment (GIWA). There have been three major conceptual advances in coastal science. First, humans are now thought of as forming an integral component of the ecology and function of ecosystems. Second, the water continuum of river basin catchments into the coastal ocean has been identified as a fundamental unit for coastal assessment and management. Third, the ecosystem approach to management has been developed and is an important consideration in managing coastal areas. New monitoring tools are also in place now, from molecular-level assays to space platform observations. Specific international programs that have made great significant strides since UNCED including the IGBP program which is completing its first 10-year stage assessment of global change with several core projects addressing the coastal zone and the marine environment. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), adopted in 1995, provides the major programmatic framework for addressing anthropogenic sources of marine pollution.

### **Constraints and Challenges**

Additional efforts must be undertaken to jointly address the problems of fresh water and coastal and marine pollution from land-based activities. For a more effective implementation of the GPA and advancement of ocean governance, coordination and cooperation among the many different institutions and economic sectors, as well as additional financial resources are required. A global assessment of the marine environment is urgently needed, bringing sectoral assessments together in an integrated way and forecasting changes in ocean/coastal uses and their implications. The development of environmental, socio-economic, and program performance indicators is also needed to assess the effectiveness of coastal and ocean management programs.

### **Key Recommendations (E)**

**5.1** Develop a periodic, comprehensive global report on the *State of Oceans and Development* building on existing regional and sectoral efforts. This report should anticipate and plan for emerging ocean and coastal issues, such as off-shore aquaculture and bioprospecting of marine genetic resources.

**5.2** To support the global assessment, implement an operational observing system that is adequate to detect changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting technique to achieve operational capabilities analogous to weather prediction.



**5.3** Advance the scientific understanding of interactions among marine, terrestrial and atmospheric systems and of how human activities influence these interactions through synthesis and improved understanding of: (a) the ocean-climate system, and of (b) coastal systems that are affected by the ocean-climate system and land-based human activities.

**5.4** Improve the linkage between science and management through partnerships that enable more effective use and exchange of data and information to the benefit of communities and society as a whole, by including, inter alia, the socio-economic aspects of marine pollution and physical degradation in the *State of the Oceans and Development* report, and through the development of environmental and socio-economic indicators measuring the performance of management actions related to oceans and coasts.

**5.5** Support the implementation and financing of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities.

## **F. Small Island Developing States (SIDS)**

### **Issue**

Both Agenda 21 and the 1994 Barbados Programme of Action highlight the fact that islands are faced with the greatest complexities and challenges of sustainable development. One of the most useful definitions of the challenge is found in Agenda 21 that recognized *“Small Island Developing States, and islands supporting small communities are a special case both for environment and development. They are ecologically fragile and vulnerable. Their small size, limited resources, geographic dispersion and isolation from markets, place them at a disadvantage economically and prevent economies of scale.”*

### **Vision**

To make progress to reverse the trends, a vision for the sustainable development of small islands is needed based on: replacing the conventional concept of economic growth with that of human development; emphasizing self sufficiency and domestic and inter-regional markets before international; promoting in-country value-adding to products and processes; harnessing investment in coastal and marine areas to provide equitable opportunities to improved livelihoods; reviewing aid practices to ensure full involvement of stakeholders in the conceptualization and design of both large and small projects; increasing the amount of, and access to, ‘small project funds’ as these represent useful amounts of money; improving cross-sectoral integration at the regional level; developing a code of ethics for donors; and encouraging inter-regional exchanges between civil society.

## **Achievements**

From the review of current policy for small islands, it is clear that there have been some successful approaches to addressing their pressing environmental and sustainable development concerns. These include: community-centered environmental initiatives; improved coordination at national and, in particular, regional levels; increased capacity in the public sector to deal with environmental issues; increased awareness within communities and increasing participation; and a strengthened regional legal framework to deal with common environmental concerns (Working Group 7 Report).

## **Constraints and Challenges**

The following constraints or impediments to the sustainable development of small islands can be recognized: (a) lack of capacity at the national and community levels; (b) fragmented institutional arrangements with a lack of vertical and horizontal integration across marine sectors; (c) inconsistent short and long-term goals that do not safeguard the rights of future generations; (d) sustainable development strategies in the framework of climate change and globalization; (e) aid dependency; (f) use of geopolitical conflicts to underpin support for developing countries; (g) donor-driven relationship between official development assistance (ODA) which is declining and direct foreign investment which is growing, with consequent inequitable distribution of benefits; and (h) connection between poverty reduction and sustainable development – poverty reduction should not simply be a shift from subsistence to cash economies since increase in power to consume has no connection with sustainable development (Working Group 7 Report).

## **Key Recommendations (F)**

**6.1** Integrate economic, environmental, and social vulnerability factors into a vulnerability index with special applicability to SIDS.

**6.2** Secure greater and sustainable returns from ocean resources through improved domestic policies and legislation, improved terms of trade in ocean resources, and higher levels of domestic and foreign investment.

**6.3** Build capacity for the sound management of the exclusive economic zones of Small Island Developing States.

**6.4** Call for Barbados +10 to be convened as a full and comprehensive review to focus on achievements, constraints and new initiatives necessary to significantly advance sustainable development within SIDS.

## G. Emerging issues

### Issue

In addition to the persistent challenges posed by global and regional ocean governance, new issues are emerging, and others are evolving that will need to be addressed. Emerging issues can be identified in five main clusters. (a) *Population-related and societal issues* such as management of coastal megacities and consideration of gender and indigenous people issues; (b) *Environment-related issues*, such as expanding pathways for emergent diseases and invasive species which may affect marine species, human health, and the environment. (c) *Issues related to trade and to marine industry-related issues*, such as addressing conflicts between world trade and sustainable development of marine resources; impacts of tourism on marine environments; decommissioning of offshore platforms; megaships and expansion of ports, and recycling of ships; (d) *Issues linked with new uses of the sea* such as the exploration of the genetic resources of the deep seabed, the protection of underwater cultural heritage, the expansion of offshore aquaculture, and marine eco-tourism; (e) *Issues associated with security and peace*, as well as with combating piracy and other crimes at sea such as drug trafficking and the smuggling of migrants (Working Group 1 and Secretariat Background document 2001).

### Vision

The international community needs to develop the capacity to assess and anticipate trends in the use of ocean and coastal resources and areas, such as through the establishment of a *State of Oceans and Development* report. Emerging trends and their implications should also be the subject of discussion at international forums bringing together governments, NGOs, and IGOs.

### Achievements

Progress can be reported in the development of governance and management frameworks of some of the above areas. For example, the GPA has adopted the Strategic Action Plan of Municipal Wastewater, which can improve the environmental and health conditions of urban coastal waters. Rules and standards for the decommissioning and disposal of offshore installations have been adopted under the London Convention. The International Maritime Organization (IMO), the International Labour Organization (ILO), and the United Nations Environment Programme (UNEP) are attempting to develop guidelines for the re-cycling of ships. UNESCO has adopted a Convention for the Protection of the Underwater Cultural Heritage. IMO has adopted Guidelines on Management of Ships' Ballast Waters and is working on a Draft International Convention for the Control of Alien Organisms and Pathogens in Ships' Ballast Waters.

## Constraints and Challenges

Some of the emerging issues in oceans and coasts have not yet been addressed by the existing governance and management frameworks. International, regional, and national governance frameworks should develop, as appropriate, by revising existing or by creating new legal instruments and measures to address emerging issues, including those beyond national jurisdiction. The use of codes of conduct, protocols, and charters should be considered. Among the most pressing issues are the management of the genetic resources of the deep seabed and the possible establishment of marine protected areas in the high seas to protect especially vulnerable areas.

### Key Recommendations (G)

**7.1** Consider international instruments or voluntary guidelines to manage access to and exploitation of the genetic resources of the deep seabed (for example, through protocols in the form of a protocol or voluntary guidelines attached to the CBD and/or to UNCLOS).

**7.2** Address the human health issues posed by genetically modified organisms through the ratification and implementation of the Cartagena Protocol on Biosafety attached to the CBD and the control of alien and invasive species.

**7.3** Address issues in the high seas, including considering the establishment of marine protected areas in deep hydrothermal vent areas and the conservation of sensitive habitats such as seamounts.

## SUMMARY OF MAJOR RECOMMENDATIONS

Table 2 provides a summary of the major recommendations of this report of the Global Conference on *Oceans and Coasts at Rio+10*.

Table 2—Summary of major recommendations

Issue	Recommendations
<p><b>Poverty reduction and healthier coastal communities</b></p>	<ol style="list-style-type: none"> <li>1.1 Establish and implement programs in integrated coastal and ocean management to guide development opportunities in coastal areas of developing countries while maintaining or achieving environmental quality.</li> <li>1.2 Target donor aid more explicitly to achieve poverty reduction/public health improvement in developing countries, such as, for example: <ul style="list-style-type: none"> <li>—Encourage the GEF to analyze how project proposals funded under the GEF will address poverty alleviation/public health gains.</li> <li>—Encourage donors to set up a “Small Project Fund” for addressing ocean and coastal issues. “Small grants” of usually less than \$25,000 per project can be useful sources for: (a) capacity building, particularly among local authorities and non-governmental organizations; (b) dissemination of good practice; (c) preparation of larger project proposals; and (d) demonstration projects to promote sustainable livelihoods.</li> </ul> </li> <li>1.3 Recognize sustainable aquaculture and responsible fisheries as parallel and essential elements of a common strategy to ensure global seafood security and fill the supply gap forecasted for the next decade.</li> <li>1.4 Focus on innovative approaches to small-scale fisheries and aquaculture, empowering the sector, establishing fishing rights including access to necessary infrastructure to support livelihoods and tenure systems, integrating fisheries into coastal management, and taking account of the interactions and compatibilities between aquaculture and harvest fisheries.</li> <li>1.5 Support the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, and in particular the Strategic Action Plan on Municipal Wastewater.</li> <li>1.6 Prevent destruction, loss of human lives and associated costs through appropriate forecasting, early warning, prevention, preparedness, and mitigation measures of ocean-related natural disasters.</li> </ol>
<p><b>Implementation and compliance with international agreements</b></p>	<ol style="list-style-type: none"> <li>2.1 Develop a common Global Vision for Oceans, Seas, and Coasts which provides the goals and objectives for the governance of the oceans and coasts, to which the multitude of international regulatory regimes and institutions contribute.</li> <li>2.2 Promote transparency, participation, and accountability in decision-making on oceans and coasts at all levels.</li> <li>2.3 Undertake a broad diplomatic process for wider ratification and implementation of multilateral agreements related to oceans and coasts (such as UNCLOS, Fish Stocks Agreement, etc.), and develop strategies for ensuring peace and security of oceans and coasts, including peaceful settlement of ocean disputes.</li> <li>2.4 Promote joint implementation of clusters of international legal instruments and programs addressing oceans at global, regional and national levels, through, for example: memoranda of understanding among governing bodies, joint work of scientific bodies, joint consideration of related agreements, and joint work programs.</li> </ol>

Issue	Recommendations
<p><b>Implementation and compliance with international agreements</b></p> <p><i>Continued...</i></p>	<p>2.5 Streamline national reporting around clusters of international legal instruments and programs addressing oceans to ease countries' reporting burdens.</p> <p>2.6 Encourage the creation of national ocean and coastal councils to formulate national policies on oceans and coasts and to implement, in a coordinated fashion, clusters of international agreements on oceans and coasts.</p> <p>2.7 Regional scales of ocean governance should be recognized and promoted as an essential approach to pursue the sustainable development of oceans and coasts and to integrate global approaches with local ones.</p>
<p><b>Capacity building for governance of ocean and coastal areas</b></p>	<p>3.1 Involve both the national and subnational levels of government in the development and implementation of integrated coastal management programs, avoiding exclusive reliance on pilot projects which often do not “scale up” to include other parts of the coastal zone.</p> <p>3.2 Increase the capacity of local governments and community-based groups to manage coastal and marine areas with appropriate scientific inputs and participatory processes.</p> <p>3.3 Take decisive actions to ensure effective management measures for the coastal areas of each nation, moving from the implementation of demonstration projects to a more complete coverage of each nation's coastline, by working toward committing to the following targets:</p> <ul style="list-style-type: none"> <li>– 20% of national coastlines under management by 2012</li> <li>– 60% of national coastlines under management by 2022</li> <li>– 100% of national coastlines under management by 2032</li> </ul> <p>3.4 Promote the formulation of policies for the management of exclusive economic zones (EEZ) as a new frontier to maximize the economic return from ocean resources, in particular through the development of common visions for sustainable development across all ocean sectors using an ecosystem-based approach and the setting of national and regional ocean management objectives and priorities.</p> <p>3.5 Encourage donors to create synergy among many “single issue” projects (such as biodiversity, coastal erosion) funded by multiple donors in the same national context which often operate with few connections among them, and to weave these into a comprehensive coastal management effort.</p> <p>3.6 Promote good practice and performance measurement standards for donor-funded projects in integrated coastal management and encourage progress and accountability at all levels.</p> <p>3.7 Improve the interconnection between education and training in integrated coastal management to allow for more systematic capacity building in the field. To this end, donors and governments should consider the establishment of regional consortia of local universities on integrated coastal management.</p> <p>3.8 Promote the development of Regional Partnerships aimed at improving the management of coastal and marine resource, following successful cooperation models such as the African Process for the Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa recently endorsed by the OAU Summit and the African Regional Preparatory Process for WSSD.</p>

Issue	Recommendations
<p><b>Protection of coastal and marine areas and biodiversity</b></p>	<p>4.1 Consider a timetable and specific resource commitments to further implement the Jakarta mandate on marine and coastal biodiversity under the CBD.</p> <p>4.2 Develop an internationally accepted marine biodiversity classification system for the marine realm that supports the development of a rationale for MPA systems within jurisdictions.</p> <p>4.3 Establish and expand a comprehensive global representative network of marine protected areas that includes regional and national systems of highly protected/no take areas for the maintenance of connectivity and corridors.</p> <p>4.4 Ensure the effectiveness of existing MPAs through the development and application of performance measures.</p> <p>4.5 Incorporate marine protected areas into an overall integrated coastal and ocean management system using the social sciences to enhance the participatory process, and assess and address impacts on local human communities.</p> <p>4.6 Consider establishing MPAs or special conservation areas in the high seas in areas under threat, such as seamounts.</p>
<p><b>Monitoring and assessment of the marine environment</b></p>	<p>5.1 Develop a periodic, comprehensive global report on the <i>State of Oceans and Development</i>, building on existing regional and sectoral efforts. This report should anticipate and plan for emerging ocean and coastal issues, such as offshore aquaculture and bioprospecting of marine genetic resources.</p> <p>5.2 To support the global assessment, implement an operational observing system that is adequate to detect changes occurring in the marine environment from estuaries to the deep sea and the development and application of modeling and forecasting techniques to achieve operational capabilities analogous to weather prediction.</p> <p>5.3 Advance the scientific understanding of interactions among marine, terrestrial and atmospheric systems and of how human activities influence these interactions through synthesis and improved understanding of: (a) the ocean-climate system, and of (b) coastal systems that are affected by the ocean-climate system and land-based human activities.</p> <p>5.4 Improve the linkage between science and management through partnerships that enable more effective use and exchange of data and information to the benefit of communities and society as a whole, by including, inter alia, the socio-economic aspects of marine pollution and physical degradation in the <i>State of the Oceans and Development</i> report, and in particular through the development of environmental and socio-economic indicators measuring the performance of management actions related to oceans and coasts.</p> <p>5.5 Support the implementation and financing of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities.</p>
<p><b>Small island developing states</b></p>	<p>6.1 Integrate economic, environmental, and social vulnerability factors into a vulnerability index with special applicability to SIDS.</p> <p>6.2 Secure greater and sustainable returns from ocean resources through improved domestic policies and legislation, improved terms of trade in ocean resources, and higher levels of domestic and foreign investment.</p>

Issue	Recommendations
<p><b>Small island developing states</b></p> <p><i>Continued...</i></p>	<p>6.3 Build capacity for the sound management of the exclusive economic zones of Small Island Developing States.</p> <p>6.4 Call for Barbados +10 to be convened as a full and comprehensive review to focus on achievements, constraints and new initiatives necessary to significantly advance sustainable development within SIDS.</p>
<p><b>Emerging issues</b></p>	<p>7.1 Consider international instruments or voluntary guidelines to manage access to and exploitation of the genetic resources of the deep seabed (for example, in the form of a protocol or voluntary guidelines attached to the CBD and/or to UNCLOS).</p> <p>7.2 Address the human health issues posed by genetically modified organisms through the ratification and implementation of the Cartagena Protocol on Biosafety attached to the CBD and the control of alien and invasive species.</p> <p>7.3 Address issues in the high seas, including considering the establishment of marine protected areas in deep hydrothermal vent areas and the conservation of sensitive habitats such as seamounts.</p>

## GENERAL CONCLUSION

In conclusion, the Conference wishes to transmit a sense of urgency to the WSSD for addressing the issues surrounding the sustainable development of oceans and coasts. Participants at the Conference generally agreed that we are in a critical situation of declining trends that requires immediate actions by nations and governing bodies worldwide. This sense of urgency and priority was corroborated in ministerial statements, as well as by non-governmental, governmental, and international experts, scientists, commercial fishing, and industrial representatives attending the meeting. It is essential that we link economic development, social welfare, and resource conservation in order to achieve sustainability of oceans and coasts. The Conference issues an urgent call to action to decision makers in the WSSD process to develop a detailed action plan for the sustainable development of the world's oceans and coasts.

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## International Organizations

Chair: **Dr. Patricio Bernal**, Executive Secretary, Intergovernmental Oceanographic Commission (IOC), UNESCO, France

**Dr. Chris Crossland**, Land-Ocean Interactions in the Coastal Zone (LOICZ), The Netherlands

**Mr. Michael Z. Cutajar**, United Nations Framework Convention on Climate Change, Germany

**Dr. David Freestone**, Legal Advisor, World Bank, Washington

**Mr. Serge Garcia**, Food and Agriculture Organization (FAO), Italy

**Dr. Marea Hatzioles**, Senior Coastal and Marine Resource Specialist, Environment Department, World Bank

**Dr. Indumathie Hewawasam**, Africa Region, World Bank

**Dr. Geoffrey Holland**, Canada, Former Chairman, IOC, UNESCO

**Mr. Andy Hooten**, AJH, Environmental Services

**Dr. Su Jian**, China, Chairman, IOC, UNESCO

**Mr. Phil Reynolds**, United Nations Development Program Consultant and Former Chief, Water Program, UNDP

**Dr. Will Steffen**, Executive Director, International Geosphere-Biosphere Programme (IGBP), Sweden

**Dr. Narasimhan Sundararaman**, Secretary, Intergovernmental Panel on Climate Change (IPCC), Switzerland

**Mr. Dirk Troost**, Environment and Development in Coastal Regions and in Small Islands (CSI), UNESCO, France

**Mr. Ivica Trumbic**, Regional Activity Centre for Priority Actions Programme, Croatia

**Mr. Tamari'i Tutangata**, Director, South Pacific Regional Environment Programme

**Dr. Veerle Vandeweerd**, Coordinator UNEP/GPA Coordination Office, The Hague, Netherlands

**Dr. Clive Wilkinson**, Global Coral Reef Monitoring Network,  
The Australian Institute of Marine Science, Australia

***Government Sector***

Chair: **Dr. Seoung Yong Hong**, Vice-Minister, Ministry of Maritime  
Affairs and Fisheries, Korea

**Mr. Daniel Basta**, National Marine Sanctuary System, U.S.  
National Oceanic and Atmospheric Administration

**H. Victor Lichtinger**, Minister, Ministry of Environment, Natural  
Resources, Mexico

**H. Herb Dhaliwal**, Minister, Department of Fisheries and Oceans,  
Canada

**H. Rawle C. Eastmond**, Minister, Ministry of Environment,  
Energy and Natural Resources, Barbados

**Mr. Charles Ehler**, National Ocean Service, U.S. National Oceanic  
and Atmospheric Administration

**Mr. Lennox Hinds**, Canadian International Development Agency

**H. Robert Hill**, Minister, Ministry for the Environment, Australia

**H. Diane James**, Chair, Victorian Coastal Council, Australia

**Mr. Victor I. Kalyuzhnyi**, Deputy Minister of Foreign Affairs,  
Russian Federation

**Prof. Vladimir A. Knyazhev**, Deputy Minister of Industry,  
Science and Technology, Russian Federation

**Mr. Tom Laughlin**, U.S. National Oceanic and Atmospheric  
Administration

**H. Rokhmin Dahuri**, Minister, Ministry of Marine Affairs and  
Fisheries, Indonesia

**Dr. Yuriy Mikhaylichenko**, Ministry of Industry, Science and  
Technology, Russian Federation

**Mr. Haiqing Li**, State Oceanic Administration, China

**H. Francisco Mabjaia**, Vice Minister, Ministry for the  
Environment, Mozambique

**Ms. Camille Mageau**, Department of Fisheries and Oceans,  
Ottawa, Canada

**Ms. Evelyne Meltzer**, Department of Fisheries and Oceans,  
Halifax, Canada

**Dr. Magnus Ngoile**, Director-General, Natural Resources  
Management Council, Tanzania

**H. Ambassador Tuiloma Neroni Slade**, Chairman, Alliance for  
Small Island States and Ambassador/Permanent Representative  
of Samoa

**H. Jose Sarney Filho**, Minister, Ministry for Environment, Brazil



