

DRAFT, October 1, 2008

Recommendations for Action

Emanating from the 4th Global Conference on Oceans, Coasts, and Islands: Advancing Ecosystem Management and Integrated Coastal and Ocean Management in the Context of Climate Change April 7-11, 2008, Hanoi Vietnam

Conference Overview

The 4th Global Conference on Oceans, Coasts, and Islands brought together 439 ocean and coastal leaders from 62 countries, representing all sectors, including governments, intergovernmental and international organizations, non-governmental organizations, the business community, ocean donors, and scientific institutions. The conference assessed essential issues in the governance of the world's oceans, with a focus on moving toward an ecosystem-based and integrated approach to oceans governance at national, regional, and global levels. For the first time, a concerted effort was made to bring oceans policy together with climate change issues, which, as indicated in the 2007 report of the Intergovernmental Panel on Climate Change will have profound effects on ecosystems and coastal populations around the world, especially among the poorest people on Earth and in small island developing States.

The conference focused especially on assessing the progress that has been achieved (or lack thereof) on the global oceans targets established by the world's political leaders at the 2002 World Summit on Sustainable Development (WSSD): Achieving ecosystem-based and integrated ocean and coastal management by 2010, reducing marine biodiversity loss by 2010, establishing networks of marine protected areas by 2012, and restoring fishery stocks by 2015, among others.

The conference underlined that ocean and coastal managers are at the front line of climate changes. The climate issues that ocean and coastal leaders around the world will need to face will ineradicably change the nature of ocean and coastal management, introducing increased uncertainty, the need to incorporate climate change planning into all existing management processes, the need to develop and apply new tools related to vulnerability assessment, and the need to make difficult choices in what in many cases will be "no win" situations, involving adverse impacts to vulnerable ecosystems and communities. Conference participants underlined that we must begin this process now, including altering coastal development that is already in the pipeline--we don't have the luxury of waiting 10 years before we consider the implications and before we act.

An extensive preparatory process involving twelve multinational Working Groups (involving 254 ocean experts from 68 countries representing all sectors and regions of the world) was mobilized to prepare analyses and

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specific policy recommendations to the 4th Global Conference in Hanoi, Vietnam, April 7-11, 2008. The Policy Briefs prepared by each Working Group are available on the YouTube Channel noted below.

Coverage of the Global Conference is available at the following sites:

- The Global Forum, the World Ocean Network and the World Ocean Observatory have created a special GOC2008 website and YouTube channel designed specifically to inform audiences across the world about the context and work of the Global Forum using rich media.

GOC2008 Website:

<http://www.thew2o.net/goc2008/index.html>

GOC2008 YouTube Channel:

<http://www.youtube.com/globaloceans2008>

These sites enable viewers to:

- Explore the proceedings of the Conference and each major ocean issue being addressed
- View the reports, recommendations, and Policy Briefs of the Global Forum's 12 Working Groups, which have been mobilized to provide recommendations on priority next steps that the international community should take on major ocean issues
- Watch ocean and coastal experts from various sectors around the globe in brief interviews addressing major ocean topics and issues.

The International Institute for Sustainable Development – Reporting Services (IISDRS) provided daily coverage of Conference proceedings. This report is available at <http://www.iisd.ca/download/pdf/sd/ymbvol68num4e.pdf>.

Recommendations for Action

This report provides a summary of the findings in each major issue area and provides a set of recommendations for action in draft form. This report has been prepared by the Global Forum Secretariat—Miriam Balgos, Biliiana Cicin-Sain, Shelby M. Hockenberry, Kathleen McCole, Caitlin Snyder, and Kateryna Wowk—on the basis of the policy briefs, conference presentations and discussions, and other materials.

The recommendations for action represent a starting point for discussions on advancing the global oceans agenda to 2016. The next steps will involve refinement of the recommendations for action through discussions with the Global Forum Steering Committee, Global Forum Working Groups, and other relevant parties.

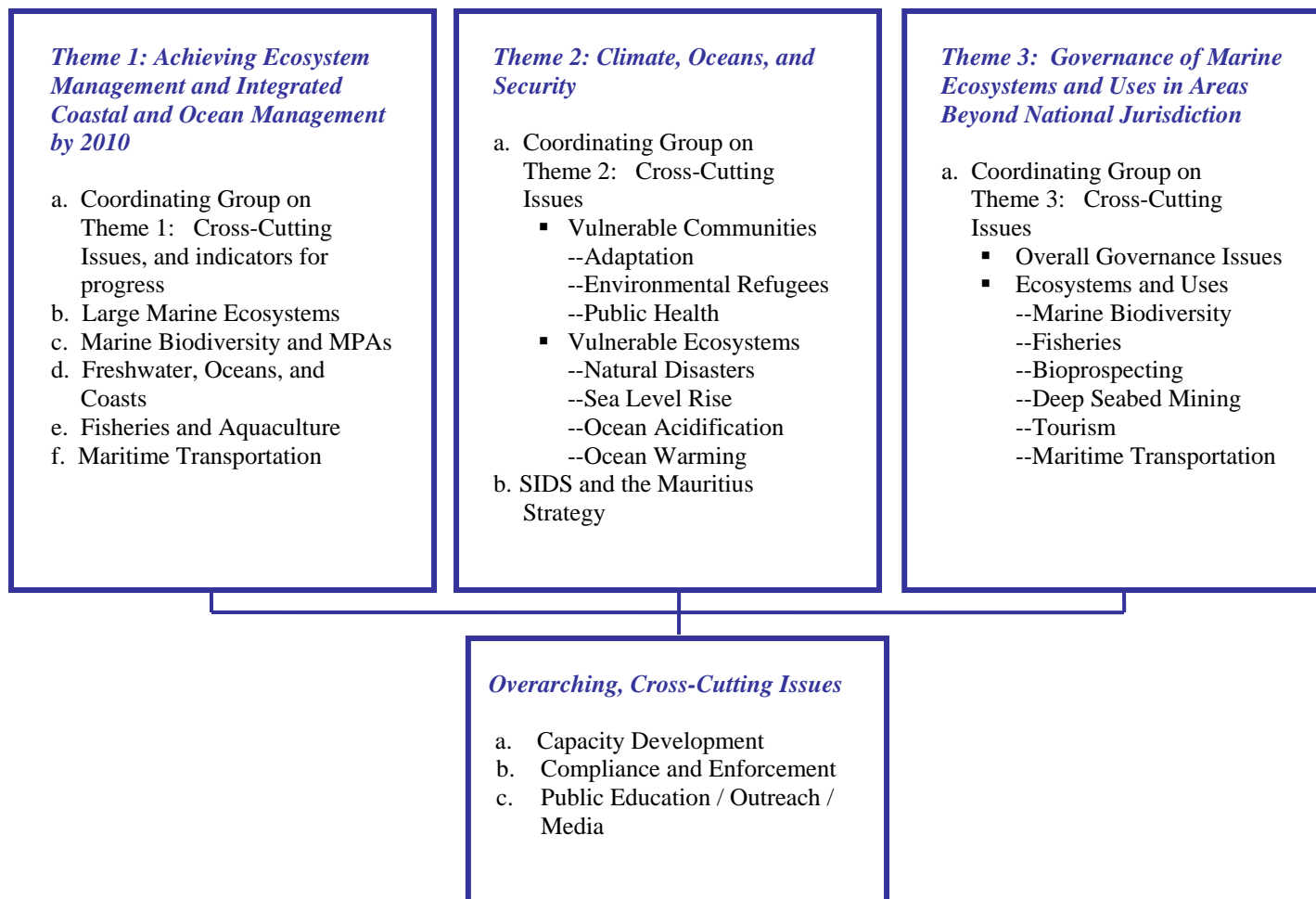
About the Global Forum Working Groups

In late 2006, the Global Forum began a strategic planning effort to chart strategic activities which could be undertaken together with governments, the United Nations, NGOs, industry, and scientific groups to advance the global oceans agenda over the next ten-year period, to 2016. The first step was the development of a draft calendar of major events and opportunities for policy decisions (by the United Nations and other parties) related to oceans, coasts, small island developing States, and freshwater taking place over the next decade, as well as tentative Global Forum policy analyses and multistakeholder workshops/global conferences in response to and/or in anticipation of such opportunities (to view the Draft Calendar on International Ocean Events (2006-2016) and Related Global Forum Activities, please visit http://www.globaloceans.org/planning/pdf/Major_Oceans_Events_Calendar.pdf).

The next steps in the strategic planning are to be carried out through Working Groups, organized on the following three major themes, which are based on the WSSD targets on oceans, coasts, and small island developing States. Working Groups are also to consider the overarching, cross-cutting issues, as explained

below. The three themes and overarching, cross-cutting issues are shown in the Working Groups Matrix below. It should be noted that the themes are inter-related, hence there are some intended overlaps among the groups.

Global Forum Working Groups Matrix



By way of background, the Global Forum was first mobilized in 2001 to help the world’s governments highlight issues related to oceans, coasts, and SIDS on the agenda of the 2002 WSSD, and was later formalized at the WSSD in Johannesburg. Comprised of ocean leaders from governments, non-governmental organizations, international and intergovernmental organizations, the private sector, and scientific associations, the Global Forum fosters cross-sectoral dialogue on ocean issues; is an advocate for oceans at the highest political levels; and takes an ecosystem-based and integrated approach to oceans governance at national, regional, and global levels, including treating the water system—from freshwater, to coasts, to oceans—as the interlinked system that it is. Since 2001, the Global Forum has involved ocean leaders from all sectors from 93 countries to advance the global oceans agenda—i.e., to promote the implementation of international agreements related to oceans, coasts, and SIDS, especially the goals emanating from the 2002 WSSD; analyze new emerging issues such as improving the governance regime for ocean areas beyond national jurisdiction; and facilitate international consensus-building on unresolved ocean issues.

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I. Putting Climate on the Oceans Agenda and Vice Versa

Climate and Oceans

Major Findings:

WSSD Goals

Protecting and managing the natural resource base of economic and social development

- Promote the implementation of chapter 17 of Agenda 21, which provides the programme of action for achieving the sustainable development of oceans, coastal areas and seas through its programme areas of integrated management and sustainable development of coastal areas, including exclusive economic zones; marine environmental protection; sustainable use and conservation of marine living resources; addressing critical uncertainties for the management of the marine environment and *climate change*; strengthening international, including regional, cooperation and coordination; and sustainable development of small islands (emphasis added).
- Reduce the risks of flooding and drought in vulnerable countries by, inter alia, promoting wetland and watershed protection and restoration, improved land-use planning, improving and applying more widely techniques and methodologies for assessing the potential adverse effects of climate change on wetlands and, as appropriate, assisting countries that are particularly vulnerable to those effects.
- Improve techniques and methodologies for assessing the effects of climate change, and encourage the continuing assessment of those adverse effects by the Intergovernmental Panel on Climate Change (IPCC).
- Meet all the commitments and obligations under the United Nations Framework Convention on Climate Change (UNFCCC).
- Work cooperatively towards achieving the objectives of the Convention.
- Provide technical and financial assistance and capacity -building to developing countries and countries with economies in transition in accordance with commitments under the Convention, including the Marrakesh Accords.
- Build and enhance scientific and technological capabilities, inter alia, through continuing support to the IPCC for the exchange of scientific data and information especially in developing countries.
- Develop and transfer technological solutions.
- Develop and disseminate innovative technologies in regard to key sectors of development, particularly energy, and of investment in this regard, including through private sector involvement, market-oriented approaches, and supportive public policies and international cooperation.
- Promote the systematic observation of the Earth's atmosphere, land and oceans by improving monitoring stations, increasing the use of satellites and appropriate integration of these observations to produce high-quality data that could be disseminated for the use of all countries, in particular developing countries.
- Enhance the implementation of national, regional and international strategies to monitor the Earth's atmosphere, land and oceans, including, as appropriate, strategies for integrated global observations, inter alia, with the cooperation of relevant international organizations, especially the specialized agencies, in cooperation with the Convention.
- Support initiatives to assess the consequences of climate change, such as the Arctic Council initiative, including the environmental, economic and social impacts on local and indigenous communities.

Sustainable development of small island developing States

- Assist small island developing States in mobilizing adequate resources and partnerships for their adaptation needs relating to the adverse effects of climate change, sea level rise and climate variability, consistent with commitments under the UNFCCC, where applicable.

Sustainable development for Africa

--Assist African countries in mobilizing adequate resources for their adaptation needs relating to the adverse effects of climate change, extreme weather events, sea level rise and climate variability, and assist in developing national climate change strategies and mitigation programmes, and continue to take actions to mitigate the adverse effects on climate change in Africa, consistent with the UNFCCC.

--Continue to support and collaborate with international scientific assessments supporting decision -making, including the IPCC, with the broad participation of developing country experts.

MDG Goals

--Improve cooperation and coordination at all levels in order to address issues related to oceans and seas in an integrated manner and promote integrated management and sustainable development of the oceans and seas.

Background

The oceans are a part of the climate system and play a major role in regulating climate conditions. Changes in atmospheric conditions (temperature and weather patterns) can have a profound impact on the functioning of ocean, coastal and island ecosystems. In some cases, these impacts are already being seen, with increases in coastal flooding, storm intensity, and potentially changing current patterns. Ocean acidification, caused by the uptake of anthropogenic carbon dioxide from the atmosphere, poses adverse effects on calcifying species such as corals, echinoderms, crustaceans and molluscs as well as certain phytoplankton. Current evidence suggests that changes in the biogeochemistry of the marine environment over the next decades can be minimized with early and deep reductions in carbon dioxide emissions. In its 2007 report, the Intergovernmental Panel on Climate Change (IPCC), amid growing global concern, called urgent attention to the growing “climate divide” that exists between the developed and the developing world, that is, the brunt of the damage acting as the catalyst for global climate change has been created by the developed world but its impacts will be felt most readily by the developing world.

Methods to Achieve Goals

The global community must remain cognizant that we have the tools to solve the problems and that integrated management is the way. As coastal and ocean managers, we can offer solutions to building resiliency. Ultimately, we must also be cognizant of our actions and ensure that our mitigation efforts do not lead to unintended consequences.

Challenges

Oceans and the atmosphere are changing at a rate that is faster than previously experienced, which is threatening our life support system and human security. Most of the increased heat of the earth during recent decades has gone into the ocean. The increased energy of the ocean atmosphere system is driving an increase in weather variability with more extremes. There have been increases in extreme storm events, as well as strength and frequency of storm events in mid-latitudes. This generates hazards and disasters not only in coastal areas, but also on land, as demonstrated in 2007 in Europe and Asia. There is an increasing rate of change of sea level rise; the 2007 IPCC Report gives a global average rate of sea level rise of 1.8 mm/yr since 1961, increasing to 3.1 mm/yr since 1993. This, together with acidification and coral reef breakdown, threaten many islands and low lying areas. This has potential geopolitical implications as regards food production, migration of people, poverty enhancements, local and regional conflicts, possibly failed States, rural decline, migration to urban centers, increasing unemployment, disruption of livelihoods in vulnerable countries, and the disruption of services, e.g. for tourism, transport, and sanitation.

As the chair of the IPCC panel noted “It’s the poorest of the poor in the world, and this includes poor people even in prosperous societies, who are going to be the worst hit... [as] people who are poor are least equipped to be able to adapt to the impacts of climate change and therefore, in some sense, this does become a global responsibility” (IPCC 2007).

Developing nations in Africa (which account for less than 3% of global carbon emissions) and Asia would be most affected and the developed wealthy nations far from the equator least affected. Asia will be particularly vulnerable to the effects of climate change, especially major population centers at low elevations including: Mumbai, India; Shanghai, China; Jakarta, Indonesia; Tokyo, Japan; and Dhaka, Bangladesh. The five most vulnerable countries with large populations are China, India, Bangladesh, Vietnam, and Indonesia. The countries most threatened when looking at largest total land area are Russia, Canada, the United States, China, and Indonesia. The impact of climate change on developing nations, especially SIDS, is significant and the implications of these potential effects range from changes in ocean chemistry and forecasted sea level rise to impacts on ecosystems and human health. The need to address these issues in the oceans community is a vital first step in combating the potentially devastating effects of climate change with specific attention to the developing world and SIDS.

Looking at the issue of food security it was found that food prices are rising due to climate change and other factors, such as the use of crops for biofuels. It was also found that there have been large impacts on sea and freshwater fisheries through overfishing, pollution, habitat losses and destructive fisheries. Furthermore, ecosystems and biodiversity have been changing, and globally we are experiencing climate variability (El Niño, other oscillations) which shifts the distribution of fish. When viewed in combination with other pressures on marine living resources, severe impacts on food security constitutes a high risk.

Regarding coastal areas, habitats, and related ecosystems the Working Group noted sea level changes, a general lack of a stable coastline, increased erosion, storm and tidal surges, hurricane impacts, inundations and variations in ecosystems due to temperature changes. Adaptation will depend upon coastal development: natural systems such as beaches, dunes, wetlands and estuaries can adapt naturally to changes in sea level, wind, currents and wave patterns. Planned retreat is also possible when infrastructure development is limited. Adaptation in areas with large infrastructure development needs to rely on protection efforts such as dikes and walls, or beach nourishment, restoration and/or wetland creation.

Changes are occurring faster than predicted. Recent analyses provide evidence of high rates of warming in all but three (94 percent) of the world's 64 Large Marine Ecosystems (LMEs) (Sherman et al., 2007), which significantly exceeds reports of the IPCC. CO₂ increases have caused the oceans to become more acidic in a very short period, greater than any level experienced for 300 million years. Looking at ocean warming, more than 80% of the world's coral reefs will die in this century if warming continues. Complicating these impacts are other threats, including pollution and habitat destruction, which are restricting the ability of ecosystems to recover.

Major Foci of the Working Group

Ocean and coastal leaders are at the frontline of climate change effects:

1. Put ocean/climate issues in the climate negotiations and vice versa
2. Link the effects of climate change and the ocean with human security (e.g., food security, water security, population displacement)
3. Understand and develop policy responses to global ocean changes (ocean warming, ocean acidification, changes in currents, changes in polar regions, etc.)
4. Address the "climate divide" and encourage international commitments and funding mechanisms to respond to the differential effects of climate change on different regions and peoples, especially in developing countries and in SIDS
5. Encourage a wide range of adaptation efforts
6. Properly manage mitigation efforts that use and rely upon the oceans

- carbon storage and sequestration
- iron fertilization

7. Encourage alternative forms of energy using the oceans (e.g., offshore windpower, tidal power, wave power, Ocean Thermal Energy Conversion) and develop appropriate regulatory frameworks for these

8. Enhance capacity building to address climate change effects (train personnel and seek advice on the most appropriate approaches), particularly in developing nations and in small island developing States

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Put ocean/climate issues in the climate negotiations and vice versa</p> <p>--Continue to place and reinforce the climate/ocean linkage on the international agenda</p> <p>--Inform existing processes and enhance their ability to address the climate challenge as relates to ocean and coastal issues</p> <p>--Emphasize that climate change is occurring faster than the models predict, that we have the tools to solve the problems, and that integrated management is the way.</p>	<p>--UNFCCC and IPCC to have greater focus on oceans and coasts</p>	<p>--Input information and conduct outreach to IPCC to generate greater emphasis on oceans in the climate challenge</p> <p>--Mobilize preparatory meeting prior to the World Ocean Conference on oceans and climate</p> <p>--Organize high-level international meeting on climate and oceans in 2012 (Kyoto expiration date); invite key collaborators to co-convene, including leading experts in UNFCCC and IPCC</p>	<p>--pre-Manado meeting, 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--International meeting on climate and oceans, 2012</p>
<p>2. Link the effects of climate change and the ocean with human security, food security, water security, population displacement, public health</p> <p>--Focus on concept of human security (and in particular food and water security) and economic valuation (e.g. the total value of coral reefs to the global economy over the next 50 years is estimated at \$800 billion)</p> <p>--Focus on the development of international law on environmental refugees</p>	<p>--UNGA/ UN SC to better incorporate climate change as a human security issue</p> <p>--CSD reform</p> <p>--Engage WWF, FAO, CDM, WTO, where possible; work with Ambassadors/other high-level actors who are already involved</p>	<p>--Devise succinct, key messages to negotiate in major processes, highlighting urgent global issues at highest levels</p> <p>--Work with key spokespersons (e.g., AOSIS) to generate greater attention at major negotiations</p> <p>--Focus on SIDS and the Arctic case as major bellwethers of</p>	<p>--CSD 17 (SIDS Day), 2009</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--International meeting on climate and oceans, 2012</p>

<p>3. Understand and develop policy responses to global ocean changes --ocean warming, ocean acidification, changes in currents, changes in polar regions, etc.</p> <p>--While there is growing scientific evidence on these issues, there has been little work on developing appropriate policy responses</p>	<p>--GOOS, others: develop / enhance modeling, forecasting and warning tools; adequate ocean, atmosphere, ice and land observations</p> <p>-- Scientific/academic/research institutions: provide assistance in developing warning systems, observations, interpretations, modeling, forecasting, related networks for data/information exchange and the identification of gaps, and help with measures to protect coastal zones</p> <p>--Educators: enhance global education and awareness</p> <p>--Industry: realize the impacts climate change will have on industries operating in the marine environment and invest in sustainable development of marine resources</p>	<p>forthcoming changes</p> <p>--Develop appropriate policy responses to global ocean changes, including a wide range of adaptation and mitigation efforts; use case studies where possible</p> <p>--Disseminate information on changes in ocean conditions and what these mean for fisheries and aquaculture/others to decisionmakers in a succinct and actionable format</p> <p>--Link to the International Ocean Carbon Coordination Project (IOC/UNESCO)</p> <p>--Feed information to global public, Friends of Climate Change and governments; help to mount pressure on governments to act by using key spokespersons and hard-hitting case studies at major events</p>	<p>--CSD 22, 2014</p> <p>--Promote policy options at: The Ocean in a High CO2 World –II, Monaco, October 6-9, 2008</p> <p>--pre-Manado meeting, 2009</p> <p>--Manado Conference 2009 (involve experts, including those involved in IPCC)</p> <p>--ICP-10, June 2009</p> <p>--Highlight at GEF International Waters meeting, Australia, August 2009</p> <p>--Fifth Global Conference 2010</p>
<p>4. Address the “climate divide” and encourage international commitments and funding mechanisms to respond to the differential effects of climate change on different regions and peoples</p> <p>--Understand effects and where they will occur</p> <p>--Understand magnitude of what is needed</p>	<p>-- Adaptation Fund, Clean Technology Fund, Strategic Climate Fund</p> <p>--World Bank/donor agencies and countries</p> <p>--AOSIS</p>	<p>--Work with key spokespersons / leaders, including from SIDS and from coastal developing countries, to mobilize for progress in funding mechanisms</p> <p>--Communicate with high-level decisionmakers; raise awareness</p>	<p>--CSD-17: SIDS days, May 2009</p> <p>--pre-Manado meeting, 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>

<p>--Address refugee situation</p> <p>--SIDS and developing countries need to obtain adequate shares of adaptation funds</p> <p>--Adaptation Fund needs to be conceived in hard-structure and soft- terms</p> <p>--Utilize country-driven mechanisms for addressing differential impacts on different populations to the extent possible, e.g. Sea Level Rise Foundation and other SIDS-driven mechanisms</p> <p>--Bring in educators and media to highlight the issue and help to personalize the climate divide with the general public</p>	<p>--Sea Level Rise Foundation and other SIDS-driven mechanisms</p> <p>--IPCC should do a detailed study of climate effects in SIDS</p> <p>--Educators /media</p>	<p>--Highlight special cases/ personalize issues (e.g., displacement of citizens of Kiribati)</p>	
<p>5. Encourage a wide range of adaptation efforts</p> <p>--Clarify and implement actions which can be taken in the near-term</p> <p>--Promote the notion that adaptation needs to begin immediately, including regarding development already in the pipeline</p> <p>--Encourage wide-range of adaptation efforts (e.g., protecting wetlands, as well as hard structure solutions)</p> <p>--RFMOs need to anticipate changes in the structure/ location of stocks and adapt accordingly</p> <p>--Focus on identifying and implementing practical and cost-effective approaches</p>	<p>--International agencies</p> <p>--Government agencies</p> <p>--Business/private industry, individuals</p> <p>--Tourism and insurance industries as prominent cases</p>	<p>--Disseminate information on the need to embrace a wide range of efforts including hard structures (dykes, protective walls) and soft measures (beach renourishment, protecting natural barriers (wetlands))</p> <p>--Provide successful examples/best practices, including cost-effective approaches and methodologies, where possible</p> <p>--Outreach to tourism and insurance industries</p>	<p>--CSD-17: SIDS days, May 2009</p> <p>--pre-Manado meeting, 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>
<p>6. Properly manage mitigation efforts that use and rely upon the oceans</p> <p>--Clarify and implement actions which can be taken in</p>	<p>--International agencies</p> <p>--National governments</p>	<p>--Investigate current state of applications, development of regulatory frameworks</p>	<p>--CSD-17: SIDS days, May 2009</p> <p>--pre-Manado meeting, 2009</p>

II. Review Progress and Next Steps Needed on Major WSSD Global Ocean Goals

- Ecosystem-based Management/Integrated Coastal and Ocean Management and Large Marine Ecosystems
- Small Island Developing States (SIDS)
- Fisheries and Aquaculture
- Biodiversity and MPAs
- Freshwater to Oceans
- Maritime Transportation

Achieving Ecosystem-based Management (EBM) and Integrated Coastal and Ocean Management (ICM) by 2010 and EBM in Large Marine Ecosystems

Major Findings:

WSSD Goals

- Encourage the application of the ecosystem approach by 2010 for the sustainable development of the oceans, particularly in the management of fisheries and the conservation of biodiversity.
- Promote integrated coastal and ocean management at the national level and encourage and assist countries in developing ocean policies and mechanisms on integrated coastal management.
- Assist developing countries in coordinating policies and programs at the regional and sub-regional levels aimed at conservation and sustainable management of fishery resources and implement integrated coastal area management plans, including through the development of infrastructure.

Background

Ecosystem-based Management (EBM)

The ecosystem-based management approach, the definition of which is continuously evolving, is widely embraced but not yet widely implemented on the ground. The concept has been incorporated in global, regional, national and subnational ocean research, management and conservation initiatives but in general, implementation is lacking among sectors for a number of reasons, including lack of consensus on what operationalization of EBM entails and lack of capacity for implementation.

The concept of ecosystem-based management, including its definitions, goals and principles, have been described by a number of organizations at the national (e.g., US EPAP 1999; Sissenwine and Mace 2001; McLeod et al. 2005; Sissenwine and Murawski 2004; Murawski 2007) and international levels (e.g., by the Convention on Biological Diversity (CBD); the United Nations Secretary-General (in its report on Oceans and the Law of the Sea); the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP); and the Communication Partnership for Science and the Sea (COMPASS)). Countries and regions have taken the EBM approach and its principles into consideration in the planning and implementation of development and environmental management initiatives. At the 7th meeting of the ICP in 2006, national delegates agreed that “there is no universally agreed definition of an ecosystem approach, which is interpreted differently in different contexts” although there are key agreed elements of the approach, including: 1) Ecosystems are inclusive of humans;

and 2) Management is inclusive of both conservation and sustainable use of coastal and ocean resources. ICP7 delegates stressed the need for capacity building for developing States, particularly in marine scientific research and transfer of technologies.

Application of EBM in the Management of Fisheries. An ecosystem-based approach to fisheries management is considered to be a response to the shortcomings in traditional fisheries management, which has been based on a single-species perspective and model. The web of interactions existing in various ecological communities, including linkages among different fisheries through catches and through the food web, constrains the effectiveness of single-species management. Furthermore, even traditionally well-managed single-species fisheries can pose adverse impacts on marine biodiversity. The FAO defines an ecosystem approach to fisheries (EAF) as one that strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about living, non-living, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries, the operationalization of which is embodied in a set of FAO technical guidelines. The implementation of the ecosystem approach to fisheries is constrained by lack of resources, conflicting objectives of stakeholders, inadequate participation of stakeholders in decision-making, insufficient knowledge-base, and equity issues, among others; however, there are a growing number of countries that have demonstrated EAF in practice (FAO, no date).

Application of EBM in the Conservation of Marine Biodiversity. The application of EBM in specific coastal or ocean ecosystems, such as in coral reefs, mangroves, seagrasses, and deep seabed ecosystems are in various stages of conceptualization and operationalization, and depend, to a large extent, on the level of knowledge and expertise available on each ecosystem. The CBD has established indicators for measuring progress in halting the loss of marine biodiversity, including: 1) Trends in extent of selected biomes, ecosystems and habitats; 2) Trends in abundance and distribution of selected species; and 3) Change in status of threatened species. It is yet to be established how these trends could be attributed to effective or ineffective implementation of the EBM approach. This topic is addressed in greater length under the focal area of Marine Biodiversity and Marine Protected Areas.

Integrated Ocean and Coastal Management (ICM)

ICM is a well-established approach, which has a history of more than 20 years. Much has been written about the principles and practice of ICM, which has been implemented in over 100 countries around the world as reported by Sorensen (2002) and Cicin-Sain et al (2000). Based on the analysis of Third National Reports submitted to the Convention on Biological Diversity Secretariat in 2007, the majority of reporting coastal countries (~57% of 99) are in the early stages of addressing needed institutional, administrative and legislative arrangements, ~19% are in the advanced stages of development, ~8% have necessary arrangements in place, and ~16% have not undertaken ICM at all. The process of integrated and ocean coastal management takes years before they are firmly established and yield on-the-ground results, long after external support has been extinguished, which is typically soon after the completion of ICM plans. ICM initiatives are funded and staffed in a short-term, reactive way, yet their aim is to manage using a sustainable and long-term strategy. Currently, if not absorbed and mainstreamed into government budgetary allocations, early ICM initiatives languish due to lack of sustained funding and technical support. Furthermore, like all development initiatives, it also suffers from the difficulty of attributing downstream results to specific ICM interventions and lack of effective performance measures, resulting in unfavorable reviews of ICM projects from donor agencies. Meanwhile, the degradation of the coastal and marine environment continues unabated even as coastal and management initiatives have started to take hold.

Ecosystem-based Management in Large Marine Ecosystems (LMEs)

At the regional level, EBM is being applied through 11 Large Marine Ecosystem (LME) projects and through regional conventions such as the OSPAR. The CBD principles place emphasis on the importance of local management and the involvement of stakeholders as well as consideration of all relevant information, including scientific and indigenous knowledge, innovations and practices. The COMPASS Consensus Statement points to stakeholder involvement, integrated coordinated governance and precautionary approach.

National Ocean Policies and Exclusive Economic Zone (EEZ) Management. In the last 10 years, an increasing number of countries have undertaken combined efforts to formulate and implement an integrated policy for the governance of their EEZs in order to harmonize existing uses and laws, to foster sustainable

development, to protect biodiversity and vulnerable resources and ecosystems, and to coordinate the actions of the relevant government agencies that are typically involved in ocean governance. It is estimated by the Nippon Foundation Research Task Force on National Ocean Policies that about 20-30 countries have taken concrete steps toward cross-cutting and integrated national ocean policy (Cicin-Sain, VanderZwaag and Balgos 2008). These national ocean policies are notably congruent in terms of overall principles and approaches, including EBM and ICM in particular, and most recognize the need for transparency, public and stakeholder involvement, incentives for cooperative action, and a national ocean office with clear responsibilities.

Expansion/Scaling up and Regional Approaches. The Partnerships for Environmental Management in the Seas of East Asia (PEMSEA) has successfully modeled the pilot and demonstration approach to ICM in 14 East Asian countries (Brunei Darussalam, Cambodia, China, Democratic People’s Republic of Korea, East-Timor, Indonesia, Japan, Lao People’s Democratic Republic, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, and Vietnam) where one or more sites in each country now aims to consolidate and transfer lessons learned to 20% of each country’s coastline by 2017. Furthermore, national efforts are being reinforced by region-wide partnerships created to support the implementation of the Sustainable Development Strategy for the Seas of East Asia, the regional framework adopted by 11 East Asian countries to institutionalize regional coordinating mechanisms in ICM. In the Mediterranean, an ICZM Protocol mandated the establishment of a common framework for the integrated management of the Mediterranean coastal zone and provides for the implementation of necessary measures to strengthen regional cooperation in addressing continuing severe pressures and problems on coastal resources.

Major Foci of Working Groups

The Working Group on Achieving EBM and ICM by 2010 will focus on the following:

1. Incorporate ICM into EBM and vice versa
2. Develop and implement measures of progress
3. Organize periodic assessments of progress made
4. Scale up the application of EBM and ICM
5. Develop capacity to implement EBM and ICM

The Working Group on Large Marine Ecosystems will focus on the following:

1. Keep focus on regional, transboundary projects
2. Promote the use of the bottom-up TDA and SAP process
3. Build capacity for regional ocean governance
4. Facilitate operational training

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<i>EBM/ICM by 2010</i>			

<p>1. Incorporate ICM into EBM and vice versa</p> <p>--Provide support for nations to implement EBM/ICM approaches, especially in terms of adaptation to climate change and natural resource management</p>	<p>--Donor agencies and UN institutions: provide core funding toward the institutionalization of EBM/ICM mechanisms and arrangements; ensure the development and implementation of adaptation initiatives under the Bali Action Plan and Adaptation Fund are guided by EBM/ICM</p>	<p>--Conduct of a major survey on the progress of EBM/ICM implementation around the world in preparation of global status report</p> <p>--Craft a strategy for promoting the incorporation of adaptation to climate change impacts in EBM/ICM initiatives in countries and regions</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 2014-2015</p> <p>--CBD COP9, 2008 and COP10, 2010</p> <p>--Third Intergovernmental review of the UNEP/GPA, 2011</p>
<p>2. Develop and implement measures of progress</p> <p>--Assess progress and facilitate information exchange and best practices</p>	<p>--Scientific/academic/research institutions: continue providing sound scientific information as basis for the development and implementation of management and conservation initiatives</p>	<p>--Disseminate information on the importance of core indicators for EBM/ICM progress and the conduct of case studies in various countries to assess progress / validate their utility; provide guidance on monitoring and the implementation of indicators to measure progress; examine alternative methods of attributing on-the-ground impacts to EBM/ICM initiatives</p>	<p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--Third Intergovernmental review of the UNEP/GPA, 2011</p>
<p>3. Organize periodic assessments of progress made</p> <p>--Undertake a funded, systematic effort to track and monitor ICM/EBM at national and regional levels and in marine areas beyond national jurisdiction, using common indicators, perhaps with regional and national leads</p>	<p>--Scientific/academic/research institutions and government agencies: develop an effective methodology for attributing on-the-ground impacts on oceans and coasts to EBM/ICM initiatives</p>	<p>--Collaborate with concerned government agencies, particularly NOAA, in the conduct of a major survey on the progress of EBM/ICM implementation around the world in preparation of global status report for the 5th Global Oceans Conference</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 2014-2015</p>
<p>4. Scale up the application of EBM and ICM</p>	<p>--Government agencies: work</p>	<p>--Promote successful cases of</p>	

<p>--Fund information clearinghouses and networks, availability of experts, and the development of best practices, utilizing case analyses</p>	<p>with donor agencies and stakeholders in institutionalizing EBM/ICM, particularly in enacting legislation and authorizing government budgetary allocation; incorporate adaptation to climate change into EBM/ICM initiatives</p>	<p>EBM/ICM and provide guidance on operationalizing the concepts at varying scales</p>	
<p>5. Develop capacity to implement EBM and ICM</p> <p>--Build stronger capacity at local levels and better inform the public about their abilities to contribute to problem-solving</p>	<p>--Scientific/academic/research institutions and government agencies: collaborate with donor, government and non-government agencies in capacity building initiatives</p> <p>--Public Education and Outreach Organizations/Civil Society: launch and sustain information campaigns to keep/raise EBM and ICM in the government and donor agenda and influence public's behavior towards oceans and coasts</p> <p>--Private sector: collaborate with government, non-government, other stakeholders through partnership programs that promote the implementation of EBM/ICM</p>	<p>--Continue working with World Ocean Network and the World Ocean Observatory in systematically channeling sound bites of significant information on EBM and IBM to decision-makers and the public</p>	<p>--2008-2010: United Nations Decade of Education for Sustainable Development (2005-2014)</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--Third Intergovernmental review of the UNEP/GPA, 2011</p> <p>--CSD 2014-2015</p>
<p><i>EBM in Large Marine Ecosystems</i></p> <p>1. Keep focus on regional, transboundary projects</p> <p>--Request GEF to include Regional Projects under the</p>	<p>--Regional actors/Regional organizations: government agencies, GEF, Regional Seas</p>	<p>--Promote the LME approach at major negotiations</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference</p>

<p>next GEF Resource Allocation Framework (GEF5)</p> <p>2. Promote the use of the bottom-up TDA and SAP process</p> <p>--Build on successful outcomes from work carried out in LME assessments and in the development of management frameworks on ecosystem productivity, fish and fisheries, pollution and ecosystem health, and socio-economic governance.</p> <p>3. Build capacity for regional ocean governance</p> <p>--Support the professional training of the next generation of ecosystem practitioners, including scientists, technicians, policy specialists, and resource and environmental managers in the various regions.</p> <p>--Build stronger capacity at regional and local levels and better inform the public about their abilities to contribute to problem-solving</p> <p>4. Facilitate operational training</p> <p>--Build stronger linkages with and among academic institutions in training and actual project operations including the sharing of vessel time at sea.</p>	<p>and Regional Fisheries programmes</p> <p>--Regional actors/Regional organizations</p> <p>--Government agencies</p> <p>--Donor countries and agencies</p> <p>--Ocean agencies (government and other (NGO)); consortia of universities</p> <p>--Ocean agencies (government and other (NGO)); consortia of universities</p>	<p>--Widely distribute information showcasing successful examples of the approach, including information on specific steps taken and the institutionalization / operationalization of the concept</p> <p>--Collaborate with concerned government and nongovernmental agencies to enhance capacity building efforts and the exchange of information at the local level</p> <p>--Conduct analysis of modes of operational training, including in ocean agencies and academia and investigate gaps in available training capabilities by region; disseminate results to consortia of universities</p>	<p>2010</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p>
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Small Island Developing States and Implementation of the Mauritius Strategy

Major Findings:

WSSD Goal

- Undertake a comprehensive review of the implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States (SIDS) in 2004
- Accelerate national and regional implementation of the Programme of Action, with adequate financial resources, including through Global Environment Facility focal areas, transfer of environmentally sound technologies and assistance for capacity-building from the international community.
- Implement further sustainable fisheries management and improve financial returns from fisheries by supporting and strengthening relevant regional fisheries management organizations, as appropriate, such as the recently established Caribbean Regional Fisheries Mechanism and such agreements as the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
- Assist SIDS, including through the elaboration of specific initiatives, in delimiting and managing in a sustainable manner their coastal areas and exclusive economic zones and the continental shelf, including, where appropriate, the continental shelf areas beyond 200 miles from coastal baselines, as well as relevant regional management initiatives within the context of the UNCLOS and the UNEP regional seas programmes.
- Provide support, including for capacity-building...
- Effectively reduce, prevent and control waste and pollution and their health-related impacts by undertaking initiatives by 2004 aimed at implementing the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities in SIDS.
- Develop community-based initiatives on sustainable tourism by 2004 and build the capacities necessary to diversify tourism products, while protecting culture and traditions and effectively conserving and managing natural resources.
- Extend assistance to SIDS in support of local communities and appropriate national and regional organizations of SIDS for comprehensive hazard and risk management, disaster prevention, mitigation and preparedness, and help relieve the consequences of disasters, extreme weather events and other emergencies.
- Support the finalization and subsequent early operationalization, on agreed terms, of economic, social and environmental vulnerability indices and related indicators as tools for the achievement of the sustainable development of the SIDS.
- Assist SIDS in mobilizing adequate resources and partnerships for their adaptation needs relating to the adverse effects of climate change, sea level rise and climate variability, consistent with commitments under the UNFCCC, where applicable.
- Support the availability of adequate, affordable and environmentally sound energy services for the sustainable development of SIDS...

Background

The Small Island Developing States (SIDS) are located throughout the Atlantic, Pacific, and Indian Oceans, and the Caribbean and Mediterranean Seas. SIDS are recognized by virtue of their small size, small populations, lack of substantial natural resources, remoteness, vulnerability to natural disasters, excessive dependence upon imports or few economic sectors, high costs of transportation and communication, inaccessibility to economies of scale and disproportionately higher costs of conducting business. At least 20% of SIDS still qualify as least developed countries (LDCs). The 2002 Johannesburg Plan of Implementation called for SIDS to “undertake a comprehensive review of the implementation of the *Barbados Programme of Action for the Sustainable Development of Small Island Developing States* (BPoA) in 2004.” The ten-year review of the BPoA was held in Mauritius in January 2005 and resulted in the *Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States*. The Mauritius Strategy called for priority to be given to ocean and coastal issues, including action to complete delimitation of maritime boundaries of SIDS, assessment of seabed resources, effective monitoring and enforcement of their territories, implementation of sustainable fisheries strategies, and development of sound ocean policies.

Methods to Achieve Goals

Following the adoption of the Mauritius Strategy, a number of initiatives have been launched to assist SIDS in the implementation of the strategy. These include the Convention on Biological Diversity Programme of Work on Island Biodiversity, the Global Island Partnership (GLISPA), regional intergovernmental meetings convened by UN Department of Economic and Social Affairs, and efforts by the Food and Agriculture Organization (FAO) to address the issue of food security and climate change. The Global Environment Facility (GEF) has funded over USD\$180 million of projects in SIDS. The GEF recently announced it will increase its assistance to SIDS. The University Consortium of Small Island States, launched in 2005, has a mandate to enhance knowledge and advance graduate studies in SIDS. The Consortium, comprised of the Universities of Malta, Mauritius, South Pacific, the Virgin Islands, and the West Indies, needs to be further strengthened in order to stimulate development in SIDS, improve governance of the oceans and develop a response to climate change. The UNEP Shelf Programme, coordinated by UNEP/GRID-Arendal in Norway, assists SIDS and developing nations with delineating the outer limits of their continental shelves. Currently, twenty-two States have received support from the UNEP Shelf Programme. To date, Barbados is the sole SIDS to have made a submission to the Commission on the Limits of the Continental Shelf.

Challenges

Despite the number of initiatives launched by international organizations to assist SIDS in implementing the Mauritius Strategy, additional work needs to take place. As of 2005 reports, only 20% of SIDS had developed specific institutions or interagency mechanisms for the coordination of integrated coastal and ocean management. Only 7% had enacted national coastal zone acts and only 32% have environmental impact assessment regulations and processes in place. Although 63% of SIDS have a national sea level rise adaptation plan, only 22% have established national institutions to handle climate change and adaptation issues.

Major Foci of the Working Group

1. Adaptation to climate change and role of integrated coastal zone management
2. Adoption of ecosystem-based approach to marine and coastal management, including resources within SIDS EEZs and in areas beyond national jurisdiction
3. Capacity building for coastal and marine management
4. Address the emerging threat of marine invasive species

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Adaptation to climate change and role of integrated coastal zone management</p> <p>--Obtain a fair share of global climate change funds</p> <p>--Support a SIDS-driven mechanism (with staff support) to carry out relevant analyses, promote the common strategic interests of SIDS, and periodically assess the implementation of the Mauritius Strategy</p>	<p>--UNFCCC process</p> <p>--Adaptation fund</p> <p>--Enable UNDESA SIDS unit and others (e.g., AOSIS) to explore the complex issues around climate change adaptation such as</p>	<p>--Provide advice to GEF and others on the Adaptation Fund and on strategic needs in SIDS</p> <p>--Implement recommendations of the Climate, Oceans, and Security Working Group and develop information on practical approaches to adaptation,</p>	<p>--pre-Manado meeting, 2009</p> <p>--CSD-17 (SIDS Day), May 2009</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p>

<p>--Develop and implement an adaptation and ICM strategy within a multi-stakeholder framework and carry out needed policy, institutional and legal reforms with the aim of mainstreaming adaptation</p> <p>--Develop a network of expertise on adaptation, and assembling and disseminating adaptation technologies; develop capacity in adaptation planning, ICM and mainstreaming adaptation</p> <p>--Conduct an assessment of climate change risks in the context of SIDS and formulate an adaptation plan</p> <p>--Develop and implement awareness and communication strategy</p>	<p>mainstreaming, capacity building, role of scientific research, ocean security issues, financial resources, and leadership</p> <p>--Media: evaluate costs/losses related to climate change threats with respect to SIDS and use information to justify development of adaptation technologies</p>	<p>including financing mechanisms, to climate change effects in developing countries and SIDS in conjunction with other collaborators</p> <p>--Develop Ocean and Climate Strategy/Vision leadership training for high-level decisionmakers from around the world (focus on permanent ocean officials in-country and permanent UN representatives), with special emphasis on SIDS</p>	<p>--Fifth Global Conference 2010</p> <p>--International meeting on climate and oceans 2012</p> <p>--CSD 2014-2015</p>
<p>2. Adoption of ecosystem-based approach to marine and coastal management, including resources within SIDS EEZs and in areas beyond national jurisdiction</p> <p>--Strengthen access to global databases such as FishBase, ReefBase, WCMC and put in place national data management systems</p> <p>--Carry out a needs analysis to implement EBM in SIDS</p> <p>--Strengthen university research departments and linkages with and among research institutions</p> <p>--Extend the use of existing decision support systems such as those for coral reefs in developing decision scenarios to demonstrate the relevance of EBM in sustainable management of coastal and ocean resources to policy makers</p> <p>--Put in place approaches that involve stakeholders and the private sector and a framework for sustainable</p>	<p>--Strengthen the SIDS unit in UNDESA</p> <p>--Strengthen AOSIS</p> <p>--CSD should devote greater attention to SIDS strategic issues</p> <p>--Strengthen existing initiatives, including the CBD Work Programme on Island Biodiversity, the Regional Seas Programme and the various instruments of the FAO, including RFMOs</p> <p>--National governments: carry out continental shelf delimitation; carry out/apply/mainstream ICM; prioritize the development and implementation of adaptation</p>	<p>--Highlight need for AOSIS to achieve a stable SIDS-driven mechanism and enhance UN attention to SIDS at high-level meetings</p> <p>--Provide practical advice on the implementation of EBM in SIDS, providing case studies, where possible, and including areas within national jurisdiction and beyond</p>	<p>--CSD-17 (SIDS Day), May 2009</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 2014-2015</p>

<p>ocean policy and law which recognizes the sustainable development of fisheries resources, responsible shipping traffic and movements, precautionary seabed resources exploitation including oil and gas extraction, networks of representative marine protected areas, environmentally sound aquaculture/mariculture development, ICM, access and benefit-sharing and bio-prospecting regimes</p> <p>--Transfer innovative and cost-effective technologies, including those based on satellite communications for use in monitoring the oceans and activities therein</p> <p>3. Capacity building for coastal and marine management</p> <p>--Strengthen the capacity of research institutions and universities to deliver ICM courses and fisheries-related courses and curricula at various levels</p> <p>--Conduct capacity building workshops on key priority areas</p> <p>--Adopt and strengthen public sector management and policy-making tools</p> <p>4. Address the emerging threat of marine invasive species</p> <p>--Carry out baseline data assessment and put in place an identification database; build capacity in monitoring the spread of invasive species</p> <p>--Establish biosecurity strategy measures, including procedures for minimizing risk of introductions and awareness program</p>	<p>approaches/tolls and methodologies</p> <p>--Scientific / research institutions / academia: strengthen and expand existing knowledge networks on best management practices to reflect emerging management challenges and potential solutions</p> <p>--National governments</p> <p>--Donor countries and agencies</p> <p>--Ocean agencies (government and other (NGO)); consortia of universities</p> <p>--Scientific/academic/research institutions: collaborate with donor, government and non-government agencies in capacity building initiatives</p> <p>--National governments</p> <p>--Scientific/academic/research institutions</p>	<p>--Involve experts in preparation of an economic opportunity report for SIDS (including opportunities for alternative energy development) which could be the basis for World Bank and other investments</p> <p>--Enhance the ocean and coastal curricula within the University Consortium of Small Island States; involve partners such as the International Ocean Institute; collaborate with UNDESA SIDS</p> <p>--Better link with Working Group on Marine Biodiversity and on Marine Transportation</p>	<p>--CSD-17 (SIDS Day), May 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 2014-2015</p> <p>--Promote special case of SIDS at IMO Assembly Meeting, December 2008</p>
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Fisheries and Aquaculture – Sustainability and Governance

Major Findings:

WSSD Goals

--Maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015.

--Ratify or accede to and effectively implement the relevant United Nations and, where appropriate, associated regional fisheries agreements or arrangements, noting in particular the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks 17 and the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.

--Implement the 1995 Code of Conduct for Responsible Fisheries, taking note of the special requirements of developing countries as noted in its article 5, and the relevant international plans of action and technical guidelines of the FAO.

--Urgently develop and implement national and, where appropriate, regional plans of action, to put into effect the international plans of action of the FAO, in particular the International Plan of Action (IPOA) for the Management of Fishing Capacity by 2005 and the IPOA to Prevent, Deter and Eliminate IUU Fishing by 2004. Establish effective monitoring, reporting and enforcement, and control of fishing vessels, including by flag States, to further the IPOA to Prevent, Deter and Eliminate IUU Fishing.

--Encourage relevant regional fisheries management organizations and arrangements to give due consideration to the rights, duties and interests of coastal States and the special requirements of developing States when addressing the issue of the allocation of share of fishery resources for straddling stocks and highly migratory fish stocks, mindful of the provisions of the UNCLOS and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, on the high seas and within exclusive economic zones.

--Eliminate subsidies that contribute to IUU fishing and to over-capacity, while completing the efforts undertaken at the World Trade Organization to clarify and improve its disciplines on fisheries subsidies, taking into account the importance of this sector to developing countries.

--Strengthen donor coordination and partnerships between international financial institutions, bilateral agencies and other relevant stakeholders to enable developing countries, in particular the least developed countries and small island developing States and countries with economies in transition, to develop their national, regional and subregional capacities for infrastructure and integrated management and the sustainable use of fisheries.

--Support the sustainable development of aquaculture, including small-scale aquaculture, given its growing importance for food security and economic development.

--Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, and the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012.

Background

About three quarters of the world's marine fisheries cannot withstand increased pressure. In 2005, 76% of marine fish stocks were classified by the Food and Agriculture Organization of the United Nations (FAO) as fully exploited, overexploited, or depleted, meaning the stocks are being fished at or beyond their maximum biological productivity. Only 23% were under or moderately exploited and 1% were recovering. According to the FAO, there has been a steady increase in the proportion of marine fish stocks that are classified as overexploited or depleted. Sustainability in fisheries and aquaculture is essential as the world's population continues to grow and fish consumption increases. Employment in fisheries is growing faster than other agriculture sectors and many communities in developing countries rely on fishing for their livelihood.

An important shift from species-by-species management of fisheries towards ecosystem-based management is occurring at various levels. In particular, regional fisheries management organizations and Large Marine Ecosystem Projects are trying to operationalize ecosystem-based management, strengthen cooperation, and improve compliance and enforcement mechanisms, so that highly migratory, straddling, and shared stocks are adequately managed. Much further action, however, is needed to address such issues as: 1) overcapacity of the world's fishing fleet; 2) IUU fishing, including by vessels flying "flags of convenience;" 3) subsidies which contribute to overcapacity and IUU fishing; 4) the use of fishing techniques and technologies that have adverse effects on the physical habitats and on non-targeted species; 5) allocation of fishing rights; 6) sustainable development of aquaculture; and 7) international fish trade and the impacts of market based standards.

Methods to Achieve Goals

- Strengthen RFMOs
- Strengthen global monitoring, control and surveillance efforts in fishing nations to combat IUU fishing
- Reduce overcapacity of the fishing fleet
- Formally adopt the ecosystem approach to aquaculture
- Address climate change impacts on fisheries and aquaculture

Challenges

Given the importance of fish and fish products to global food security, policy makers, resource managers and stakeholders, including fishers, must ensure the long term sustainability of fisheries resources and aquaculture.

Long term sustainability of wild fish stocks will require strong management decisions, including but not limited to a decreased capacity of global capture fisheries, strengthening of RFMOs, and eliminating IUU fishing.

Sound aquaculture policy is necessary for meeting increasing demand of fisheries resources; countries should promote sustainable aquaculture development and support necessary infrastructure and research, including research on the development of mariculture of predator species and the use of non-fish and non-wild caught feed product.

Climate change will require even more conservative and flexible approaches to fisheries science and stewardship. Enhanced assessment approaches integrating climate change impacts on stocks must be developed, and further reductions of fishing effort and global capacity will be necessary.

Major Foci of the Working Group

1. Specify next steps to be taken by the international community to accelerate progress in enhancing the performance of the Regional Fishery Management Organizations to achieve sustainable fisheries management as well as to move toward ecosystem-based management of ocean areas
2. Specify next steps that need to be taken by the international community to accelerate progress in controlling illegal, unregulated and unreported fishing
3. Specify next steps that need to be taken by the international community to accelerate progress in addressing the problem of fishing overcapacity
4. Investigate doing aquaculture right, including additional and more detailed global guidance as well as global targets (akin to the WSSD targets on fisheries) needed to properly steer this important food-generating activity

5. Investigate the range of climate effects of fisheries and the policies that can be put in place to help fishers adapt to these changes and to address such changes

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Specify next steps to be taken by the international community to accelerate progress in enhancing the performance of the RFMOs to achieve sustainable fisheries management as well as to move toward EBM of ocean areas</p> <p>--Enhance political leadership</p> <p>--Encourage better flag state controls</p> <p>--Establish new RFMOs to cover areas of the oceans and commercial stocks currently not covered in order to bring all unregulated high seas fisheries under effective governance</p> <p>--Encourage cooperation among RFMOs, especially in the management of shared stocks, compliance and IUU fishing, through, e.g., shared consolidated vessel lists, better coordination of port and market measures, and use of vessel monitoring systems; encourage RFMOs to cooperate with other international and regional organizations to promote policy integration on shared issues</p> <p>--Encourage further ratification and implementation of key governance mechanisms to promote regional fisheries management</p>	<p>--Sectoral processes (i.e., FAO, UNGA, Governments): modernize mandates and adoption of performance review based on UNFSA and FAO Code of Conduct for Responsible Fisheries</p> <p>--National governments / donor agencies: build capacity among developing countries to participate meaningfully in RFMOs and among Secretariats to carry out necessary functions, including pooling information, use of better information technology, and improving mechanisms for transparency and accountability</p>	<p>--Raise awareness among the wider oceans community about the work underway by RFMOs and related fora and build support for this work</p> <p>--Identify linkages and cooperative approaches between RFMO work and other fora, notably IUU fishing, as well as with cross-cutting approaches such as capacity building and poverty reduction</p> <p>--Consider the limits of RFMO reform and the continued need for multiple-use mechanisms</p>	<p>--Eighth Round of Informal Consultations of States Parties to the UNFSA - exact date will be set by the UNGA in September 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--UNFSA Review, 2010/2011</p>

<p>2. Specify next steps to be taken by the international community to accelerate progress in controlling IUU fishing</p> <p>--Develop and implement market-based measures to control IUU, notably trade tracking and trade restrictive measures to monitor and restrict movement of illegal product.</p> <p>--Need new tools and instruments to provide guidance in future: legally binding port State instrument; and criteria for assessing the performance of flag States</p> <p>--Recognize that IUU fishing in Africa has become an organized crime, which is occurring not because of lack of information but lack of sharing information</p>	<p>--Flag states/port states to strengthen global monitoring, control and surveillance efforts: 1) have Vessel Monitoring Systems on all large-scale fishing vessels no later than the end of 2008; 2) complete a legally binding instrument on port State measures; 3) develop a comprehensive global register of fishing vessels; and 4) increase their participation in the International MCS Network</p> <p>--Involve media to publicize issue with the general public: non-transparency is a big problem; get the message out to more civil society, involve media</p>	<p>--Raise awareness among the wider oceans community about the work underway on IUU fishing, including among developing nations of the lost revenue and resources available to them for combating IUU fishing; also raise awareness of industry's role in market-based approaches</p> <p>--Focus on the special case of Ocean Access Agreements in the EEZs of developing nations and think of a statement regarding this issue for the Manado Declaration</p>	<p>--Eighth Round of Informal Consultations of States Parties to the UNFSA - exact date will be set by the UN General Assembly in September 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--UNFSA Review, 2010/2011</p>
<p>3. Specify next steps to be taken by the international community to accelerate progress in addressing the problem of fishing overcapacity</p> <p>--Strengthen RFMO/A's ability to address capacity, including development of appropriate incentives</p> <p>--Mitigate the effects generated by perverse incentives as part of moving to harvest rights systems, such as vessel buyback/ decommissioning schemes, individual quota systems, and limited license programs</p>	<p>--Flag states/port states : substantially decrease incentives for fishers to maintain or increase fishing capacity when there is already overcapacity, both domestically and internationally</p>	<p>--Promote the assessment of market-based management systems as well as community-based initiatives in reducing overcapacity</p> <p>--Conduct assessment of existing government incentives with a view to eliminating perverse incentives</p>	<p>--Eighth Round of Informal Consultations of States Parties to the UNFSA - exact date will be set by the UN General Assembly in September 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--UNFSA Review, 2010/2011</p>

<p>4. Investigate doing aquaculture right, including additional and more detailed global guidance as well as global targets (akin to the WSSD targets on fisheries) needed to properly steer this important food-generating activity</p> <p>--Develop the required Policy, legal frameworks and institutional arrangements towards ecosystem-based management (EBM) to address both environmental and socio-economic issues</p>	<p>--National governments: formally adopt the ecosystem approach to aquaculture (in the UN General Assembly or at COFI) as was done for capture fisheries, to include the precautionary approach, risk analysis and management, and adaptation strategies</p> <p>--Scientific/research institutions, academia: develop guidance documentation and best practices on: 1) area-based integrated aquaculture planning and management; 2) joint development planning for coastal fisheries and aquaculture; 3) participative management of aquaculture areas; and 4) eco-certification of aquaculture for large and small scale enterprise</p>	<p>--Promote the development of regional and other institutional arrangements and mechanisms and implementation of ecosystem and integrated management approaches</p> <p>--Disseminate information needed to support certification at sustainability standards and to develop multi-stakeholder and consensus-based approaches</p> <p>--Generate a statement on global goals to be developed</p>	<p>--Aquavision 2008 – Sixth World Business Conference on Aquaculture, 29 September – 1 October 2008, Stavanger, Norway</p> <p>--Eighth Round of Informal Consultations of States Parties to the UNFSA - exact date will be set by the UN General Assembly in September 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>
<p>5. Investigate the range of climate effects of fisheries and the policies that can be put in place to help fishers adapt to these changes and to address such changes</p> <p>--Develop enhanced assessment approaches integrating climate-change impacts on fish stocks</p> <p>--Encourage international cooperation, e.g., development of a worldwide system for monitoring climate change impacts on fisheries and aquaculture</p>		<p>--Highlight fisheries management initiatives that take into account global climate change, including public-private sector joint initiatives</p> <p>--Link climate change effects on fisheries and aquaculture to the climate divide issue and mitigation measures, including adaptation / funding mechanisms</p>	<p>--Eighth Round of Informal Consultations of States Parties to the UNFSA - exact date will be set by the UN General Assembly in September 2008</p> <p>--pre-Manado meeting on climate change and the oceans, 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--UNFSA Review, 2010/2011</p>

Marine Biodiversity and Networks of Marine Protected Areas:

Major Findings:

WSSD Goals

- Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, and the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods, proper coastal land use and watershed planning and the integration of marine and coastal areas management into key sectors.
- To achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of life on earth.
- Maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction.
- Develop national, regional and international programmes for halting the loss of marine biodiversity, including in coral reefs and wetlands.
- Integrate the objectives of the Convention on Biological Diversity into global, regional and national sectoral and cross-sectoral programmes and policies, in particular in the programmes and policies of the economic sectors of countries and international financial institutions.
- Promote the ongoing work under the Convention on the sustainable use on biological diversity, including on sustainable tourism, as a cross-cutting issue relevant to different ecosystems, sectors and thematic areas.
- Promote the wide implementation and further development of the ecosystem approach, as being elaborated in the ongoing work of the Convention.
- To effectively conserve and sustainably use biodiversity, promote and support initiatives for hot spot areas and other areas essential for biodiversity and promote the development of national and regional ecological networks and corridors.
- Provide financial and technical support to developing countries, including capacity-building, in order to enhance indigenous and community-based biodiversity conservation efforts.
- Strengthen national, regional and international efforts to control invasive alien species, which are one of the main causes of biodiversity loss, and encourage the development of effective work programme on invasive alien species at all levels.
- Subject to national legislation, recognize the rights of local and indigenous communities who are holders of traditional knowledge, innovations and practices, and, with the approval and involvement of the holders of such knowledge, innovations and practices, develop and implement benefit-sharing mechanisms on mutually agreed terms for the use of such knowledge, innovations and practices.
- Promote the wide implementation of and continued work on the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of Benefits arising out of their Utilization, as an input to assist the Parties when developing and drafting legislative, administrative or policy measures on access and benefit-sharing as well as contract and other arrangements under mutually agreed terms for access and benefit-sharing.

Background

Marine ecosystems harbor some of the highest biological diversity on the planet. Currently, out of the 33 phyla described on earth, 32 of these are found in the ocean, with fifteen of these being exclusively marine. This high level of diversity provides humankind with many benefits. For instance, “marine fish and invertebrates provide 2.6 billion people on the planet with 20% of their average per capita protein intake, and almost US \$10 billion dollars is spent on coral reef ecotourism every year. Potential fishing benefits are estimated at U.S. \$5.7 billion annually” (Mulongoy, K.J. and S. B. Gidda 2008). However, despite these benefits, humans have yet to effectively protect their marine resources to the extent needed, and therefore, much of the world’s valuable biodiversity is either threatened or on the verge of disappearance.

Methods to Achieve Goals

In order to combat this biodiversity loss by 2010, an adequate knowledge base as to the status of biodiversity at the ecosystem and species level is needed. The Convention on Biological Diversity has put forth five indicators for reaching this goal, three of which are considered by the Global Forum Working Group on Marine Biodiversity and Networks of Marine Protected Areas. The first concerns trends in selected biomes, ecosystems and habitats. It is important to assess the status of ecologically significant ecosystems that have been given conservation priority; these ecosystems include coral reefs, the deep sea, mangroves, sea grass beds, and estuaries. For example, coral reefs contain very high levels of biodiversity and economic value, however 20% have already been destroyed; 16% damaged; 24% are under imminent risk of collapse; and 26% are under a long term threat of collapse due to threats such as human activity, over fishing and ocean warming. However, 40% of the damaged reefs have recovered or are recovering, which provides an incentive to create marine protected areas (MPAs) in order to conserve those reefs that have the potential to recover. The second CBD indicator refers to trends in abundance and distribution of selected species. In order to reduce biodiversity loss, there must be baseline data from which to measure the rate of change of biodiversity loss. This baseline can be difficult to establish, as many species have yet to be discovered and described. In order to combat this issue, efforts must be made to identify and classify marine species through species censuses. The third indicator describes the need for identifying change in the status of threatened species. Populations of threatened species, such as those listed by the IUCN Red List, must be assessed and monitored in order to protect them from extinction. There are currently 1530 marine species listed as threatened by the IUCN, including specialist groups such as seabirds, turtles, cetaceans, groupers, wrasses, and mollusks.

In addition to assessments of marine biodiversity, it is essential to reduce and/or halt those practices which lead to biodiversity loss, including over-fishing, trawling, and habitat destruction. The second WSSD goal provides a method for reducing biodiversity loss by establishing marine protected areas and networks of marine protected areas by 2012. Many countries are making progress in meeting this goal. Globally, there are 4435 MPAs, covering 0.65% of the oceans. 12.8% of the total area held in MPAs is designated as a no take zone, which prohibit fishing and human exploitation. In terms of marine protected area networks, there are numerous marine protected area national networks that have been established or are being developed in various countries and regions. For instance, Kiribati currently has the largest MPA network in the world under its 18,470,000 km² Phoenix Islands Protected Area (PIPA), which encompasses eight atolls, two submerged reefs, and much of the country's EEZ. In addition to national MPA development, various regions have begun to collaborate and create MPA networks. For example, Palau, the Federated States of Micronesia, the Marshall Islands, Guam and the Northern Marianas have come together to create the Micronesia Challenge, a commitment between the five countries to place at least 30% of their coastal waters and 20% of their terrestrial areas under protection by 2020. If successful, this will allow for 20% of the Pacific Island Region, as well as 5% of the Pacific Ocean, to be protected. A second example is the Coral Triangle Initiative (CTI), a collaboration among East Timor, Malaysia, Papua New Guinea, the Philippines, Indonesia, and the Solomon Islands, with support from Australia, the United States, the GEF, ADB, and several other NGOs. The CTI is an effort to conserve some of the most diverse and threatened coral reefs of the world within a very large marine protected area network that includes much of these nation's EEZs.

MPA networks serve an important role, especially in areas containing high levels of biodiversity and endemism, e.g. tropical coral reefs. However, there is a growing necessity for MPA networks in areas beyond national jurisdiction. 64% of the world's oceans are located beyond areas of national jurisdiction and harbor very fragile and diverse ecosystems, such as seamounts and cold coral reefs. In 2003, the World Parks Congress set a goal to develop at least five MPAs in areas beyond national jurisdiction by the year 2008 (HSMPAS). The criteria for these MPAs are being developed, and potential sites have been identified; however, there exist legal and implementation issues regarding their establishment.

For the past several years, the CBD has analyzed countries' Third National Reports and reported progress on the development and establishment of MPAs. These national reports provide an avenue to monitor the progress of CBD Parties in meeting the 2010 and 2012 goals. As of June 2008, 99 coastal country reports had been analyzed. Of these 99 countries, 81 (81.8%) had designated some MPAs; 69 (69.6%) had development plans for MPAs involving all stakeholders; 46 (46.4%) had MPAs with effective management plans; 90 (90.9%) had plans to improve the management of their existing MPAs; 92 (92.9%) had plans to develop new MPAs; 61 (61.6%) had an MPA system or network under development; and 32 (32.3%) had an MPA system or network already in place. (These numbers do not include CBD coastal parties that did not submit a report but have some forms of MPAs (e.g. Fiji), nor do they include countries

that have submitted reports that need to be converted to a different format in order to be analyzed.)

Challenges

Although improvement is occurring, challenges and obstacles continue to exist that hamper the development of MPAs and the conservation of marine biological diversity in order to meet the WSSD goals. For example, a lack of political will can lead to government non-action. This may be the result of a lack of understanding of the benefits that the ocean provides to a nation’s economy and its people. Many countries lack the financial and/or technical capacity to initiate the conservation of marine ecosystems, or institutional policies stand in the way of the initiation of such efforts. Also, accurate scientific data is lacking in terms of methodology, collection, and analysis, therefore hindering the placement of marine biodiversity conservation on a nation’s priority list. In addition, local communities and indigenous people are important stakeholders in the process of marine conservation and MPA development, and they must be brought into this process.

Another challenge is integrating the biodiversity issue into all sectors. One suggestion to address this is the establishment of an informal partnership mechanism called Friends of the Jakarta Mandate, in association with the Global Forum. This partnership could help implement a program of work on marine and coastal biodiversity, contribute to the review of Marine and Coastal Programme of Work by providing much needed skills and resources, assist capacity building of CBD parties, promote and market marine biodiversity value, and facilitate better reporting and monitoring of marine biodiversity through an effective framework. In general, this partnership could greatly assist progress being made towards the 2010/2012 MPA targets.

Major Foci of the Working Group

To reduce biodiversity loss by 2010:

1. Improve the health of the oceans and coastal communities through the reduction of biodiversity loss
2. Build capacity for marine biodiversity conservation
3. Highlight the effects of climate change on marine biodiversity
4. Focus on invasive species in the marine environment

To establish MPAs and networks by 2012:

1. Track progress in MPAs and networks
2. Build capacity for establishing and expanding MPA networks

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p><i>Reduce biodiversity loss by 2010</i></p> <p>1. Improve the health of the oceans and coastal communities through the reduction of biodiversity loss</p>	<p>--National governments, regional and other relevant international organizations,</p>	<p>--Highlight successful initiatives that demonstrate the value of marine biodiversity conservation,</p>	<p>--2nd International Marine Protected Areas Congress (IMPAC2) at the International</p>

<p>--Improve the health of the oceans and coastal communities through the reduction of biodiversity loss</p> <p>--Emphasize and solidify the importance of marine biodiversity to individuals, governments and private sector by demonstrating its economic and social value</p> <p>--Mainstream the marine biodiversity agenda into all coastal and ocean plans by establishing Friends of the Jakarta Mandate</p>	<p>academic institutions: assist in monitoring marine indicators such as those developed by the CBD and undertake measurements of the rate of biodiversity loss (at least three estimates) in order to guide efforts in the reduction of biodiversity loss by 2010</p>	<p>such as MPAs that have brought local and national benefits in terms of alternative livelihoods and strengthening economic growth, and protection of vulnerable coastal communities that is contributing to adaptation to climate change</p>	<p>Marine Conservation Congress (IMCC), Washington DC, 20-24 May 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--COP10, 2012</p>
<p>2. Build capacity for marine biodiversity conservation</p> <p>--Increase financial support and capacity for marine biodiversity conservation</p>	<p>--Government agencies / donor agencies: increase capacity for specialized areas needed such as taxonomy towards better species knowledge base for measuring the rate of loss</p>	<p>--Collaborate in the establishment of an informal partnership mechanism for the implementation of the Jakarta Mandate (“Friends of the Jakarta Mandate”) to provide a venue, e.g., a consortium, for the renewal of the commitments made by global leaders at the 2002 WSSD</p>	<p>--World Conservation Congress, 5-14 October 2008, Barcelona, Spain</p> <p>--CBD COP10, 2012</p>
<p>3. Highlight the effects of climate change on marine biodiversity</p> <p>--Improve the management and protection of coral reefs, especially from climate change impacts (ocean warming, immediate local impacts, ocean acidification, etc.)</p>	<p>--Media: highlight the importance and value of marine biodiversity to the public through various forms of media</p>	<p>--Highlight successful initiatives that demonstrate the protection of vulnerable coastal communities that is contributing to adaptation to climate change</p> <p>--Support initiatives that address the need to build resilience in</p>	<p>--CTI Summit at the WOC, May 15-16, 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>

<p>4. Focus on invasive species in the marine environment</p> <p>--Understand the impact of invasive alien species, and begin to lessen their impact on the marine environment through eradication</p> <p><i>Establish MPAs and networks by 2012</i></p> <p>1. Track progress in MPAs and networks</p> <p>--Improve the monitoring and reporting of MPA progress, ecological processes, and species trends</p> <p>2. Build capacity for establishing and expanding MPA networks</p> <p>-- Build capacity by increasing access to suitable tools, guidelines, and lessons learned</p> <p>--Expand and strengthen national and regional MPA networks as well as improve their management</p>	<p>--Science/research institutions, academia</p> <p>--IMO</p> <p>--Media</p> <p>--National governments: improve the effectiveness of MPAs by improving enforcement and management effectiveness, as well as expanding MPA areas</p>	<p>coral reefs through national and regional initiatives such as the Coral Triangle Initiative (CTI)</p> <p>--Collaborate with IMO and the media in expanding the geographical reach of the GloBallast Program by highlighting its initial successes and promoting the application of the IMO ballast water guidelines</p> <p>--Suggest CBD encourage improved national reporting by the appropriate national agencies with the use of standardized comparable measures</p> <p>--Help mobilize adequate technical support, in terms of tools, guidelines, knowledge and experiences, and human capacity towards effective implementation of global commitments on marine biodiversity and MPA networks</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--COP10 (2012) and future SBSTTA meetings</p> <p>--World Conservation Congress, 5-14 October 2008, Barcelona, Spain</p> <p>--2nd International Marine Protected Areas Congress (IMPAC2) at the International Marine Conservation Congress (IMCC), Washington DC, 20-24 May 2009</p>
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Freshwater to Oceans

Major Findings:

WSSD Goals

- Advance implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities and the Montreal Declaration on the Protection of the Marine Environment from Land-based Activities, with particular emphasis during the period from 2002 to 2006 on municipal wastewater, the physical alteration and destruction of habitats, and nutrients
- Launch a programme of actions, with financial and technical assistance, to achieve the Millennium development goal on safe drinking water. In this respect, we agree to halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water, as outlined in the Millennium Declaration, and the proportion of people without access to basic sanitation...
- Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels...
- Improve water resource management and scientific understanding of the water cycle through cooperation in joint observation and research, and for this purpose encourage and promote knowledge-sharing and provide capacity-building and the transfer of technology, as mutually agreed, including remote-sensing and satellite technologies, particularly to developing countries and countries with economies in transition
- Promote effective coordination among the various international and intergovernmental bodies and processes working on water-related issues, both within the United Nations system and between the United Nations and international financial institutions, drawing on the contributions of other international institutions and civil society to inform intergovernmental decision-making; closer coordination should also be promoted to elaborate and support proposals and undertake activities related to the International Year of Freshwater, 2003 and beyond

Background

The linkages between the freshwater, coastal, and marine systems cannot be overlooked and the need to integrate watershed and coastal management has been recommended by various international organizations, for example UNCED and UNEP-GPA. River basin flows and coastal conditions are closely linked, and changes in flows can result in impacts on ocean and coastal ecosystems, ocean productivity, and ocean circulation. Activities that take place many miles inland can have an effect not only in coastal areas, but also far out at sea. The UNEP-Global Programme of Action (GPA) estimates that 80% of the pollution load into the oceans originates from land-based sources. There have been some advances in developing the framework for integrating watershed and coastal management, for example the development of National Programmes of Action under the GPA, but challenges remain regarding the capacity to implement these programs and to secure the permanent funding, commitment, and resources required given the magnitude of this integration.

Methods to Achieve Goals

The Johannesburg Plan of Implementation calls for countries to “advance implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities and the Montreal Declaration on the Protection of the Marine Environment from Land-based Activities, with particular emphasis in the period 2002-2006 on municipal wastewater, the physical alteration and destruction of habitats, and nutrients, by actions at all levels.” Implementing the GPA is primarily the task of national governments, supported in their efforts by regional and international organizations, with the coordination effort led by UNEP through the UNEP-GPA Coordination Office. In 2006, the UNEP-GPA Office reported that over 60 countries were in the process of developing, or had finalized, their respective National Programmes of Action (NPA). As of July 2007, this number had grown to 74 countries. The Beijing Declaration, which resulted from the 2006 Second Intergovernmental Review of the GPA, encourages countries to strengthen efforts to develop NPA and mechanisms for the protection of the marine environment from land-based sources of pollution, in concert with relevant national legislation, projects, initiatives, and budget planning.

In 2002, the World Summit on Sustainable Development called for all countries to develop Integrated Water Resource Management (IWRM) strategies by the end of 2005. A 2003 survey undertaken by the Global Water Partnership (GWP) showed that of the 103 countries surveyed, 13% had plans/strategies in place or process well underway, 47% were in the process of preparing national strategies/plans, and 40% remained in the initial stages of preparing national strategies/plans. GWP undertook a similar survey in 2005, and, although these results cannot be directly compared as the countries surveyed were not the ones used in 2003, the changes do show progress from the 2003 survey. The 2005 survey showed that 21% had made good progress towards more integrated approaches, 53% were in the process of preparing national strategies/plans, and 26% remained in the initial stages of preparing national strategies/plans.

In May 2008, UN Water released its *Status Report on Integrated Water Resources Management and Water Efficiency Plans*. The report surveyed 104 countries – 77 developing or countries in transition and 27 developed. The developing countries responded that 3% had plans fully implemented and 22% have plans in place and partially implemented. Of the 27 developed countries, 22% have fully implemented national IWRM plans and 37% have plans in place and partially developed. If comparing the 53 countries surveyed by both the GWP and UN-Water, the percentage of countries having IWRM plans completed or under implementation rose from 21% to 38% in the 18-month period between the two surveys.

Challenges

Climate change affects both the freshwater and the marine system, and is an added challenge and serves as a call for urgency in addressing these linkages now. According to the 2007 IPCC report, sea-level rise will increase the salinization of groundwater resources, resulting in lower levels of freshwater available for human use within coastal areas. Furthermore, atmospheric temperature increases will cause the warming of upstream areas, which will result in changes in river flow patterns and decreases in river discharge into coastal areas. The IPCC has identified a number of hotspot areas with high vulnerability from the impacts of climate change; many of these are located at critical freshwater-coastal interfaces, including populated megadeltas, low-lying coastal wetlands, small islands, and coral reef areas.

Major Foci of the Working Group

1. Identify and recognize the costs and implications of failure to link IWRM and ICM
2. Challenge participants to identify ways to better link IWRM and ICM that can be suitable for governments, donors, planners, and key stakeholders
3. Provide input to the Global Forum related to recommendations and next steps
4. Identify post-Hanoi activities, including input to the marine section at the 5th World Water Forum

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Identify and recognize the costs and implications of failure to link IWRM and ICM</p> <p>--Overcome the present fragmentation of the freshwater and coastal communities by taking actions in the short to longer term to bring them together: from the</p>	<p>--Local (project), National (policy planning, legislation), Regional (trans-boundary water management), and Global (UN and international organizations) levels: take</p>	<p>--Take the lead in making marine issues more visible at the World Water Forum</p>	<p>--5th World Water Forum, Istanbul, March 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference</p>

<p>national project/program level to regional and international levels, including mutual inclusion in major events such as the World Water Forum and Global Ocean Forum</p> <p>2. Challenge participants to identify ways to better link IWRM and ICM that can be suitable for governments, donors, planners, and key stakeholders</p> <p>--Incorporate the concept of linking freshwater to oceans within the definitions (and framework) of IWRM and ICZM</p> <p>--Identify success stories: share experiences in identifying specific strategies for nitrogen loading reductions to coastal areas (e.g., estuaries)</p> <p>3. Provide input to the Global Forum related to recommendations and next steps</p> <p>--Identify (or recognize) the cost of doing nothing—this message should be delivered to the different organizations and stakeholders involved</p> <p>4. Identify post-Hanoi activities, including input to the marine section at the 5th World Water Forum</p> <p>--Identify and promote joint adaptation strategies into the climate change agenda for freshwater-to-coast hotspots</p> <p>--Identify and overcome national bottlenecks and integrate decision making for defining priorities and using funds from international cooperation (e.g., balancing land and marine investments/projects)</p>	<p>steps to overcome the present lack of coordination by taking actions at all levels to combine forces</p> <p>--Regional and Global organizations</p> <p>-- Cooperation at the 5th World Water Forum and the World Oceans Conference, both in 2009</p> <p>--Engage UN Oceans and UN Water to work together</p> <p>--International community: lack of capacity and funding, particularly in the developing countries, represent serious constraints, call for action and support</p> <p>--Agricultural community: particular attention be paid to non-point sources of pollution as responsible for most of the coastal/marine pollution; educate agricultural community</p>	<p>--Invite freshwater experts to World Oceans Conference and organize freshwater-oceans event for both communities</p> <p>--Co-host joint freshwater-coastal event at the World Oceans Conference</p> <p>--Develop list of specific case studies for reference, both geographical and topical</p>	<p>2010</p> <p>--Third Intergovernmental review of the UNEP/GPA, 2011</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--5th World Water Forum, Istanbul, March 2009</p> <p>--5th World Water Forum, Istanbul, March 2009</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--Third Intergovernmental review of the UNEP/GPA, 2011</p>
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Maritime Transportation

Major Findings:

WSSD Goals

--Enhance maritime safety and protection of the marine environment from pollution by actions at all levels to:

-Invite States to ratify or accede to and implement the conventions and protocols and other relevant instruments of the International Maritime Organization (IMO) relating to the enhancement of maritime safety and protection of the marine environment from marine pollution and environmental damage caused by ships, including the use of toxic anti-fouling paints, and urge the IMO to consider stronger mechanisms to secure the implementation of IMO instruments by flag States

-Accelerate the development of measures to address invasive alien species in ballast water. Urge the IMO to finalize its draft International Convention on the Control and Management of Ships' Ballast Water and Sediments

--Governments, taking into account their national circumstances, are encouraged, recalling paragraph 8 of resolution GC (44)/RES/17 of the General Conference of the International Atomic Energy Agency, and taking into account the very serious potential for environment and human health impacts of radioactive wastes, to make efforts to examine and further improve measures and internationally agreed regulations regarding safety, while stressing the importance of having effective liability mechanisms in place, relevant to international maritime transportation and other transboundary movement of radioactive material, radioactive waste and spent fuel, including, inter alia, arrangements for prior notification and consultations done in accordance with relevant international instruments

Background

The challenges that face ports and maritime transport include policy, economic, and environmental issues. These include issues related to energy and the environment, shipping and fleet modernization, port capacity and performance measures, and international, national, and regional trade and policy issues. Of particular interest for marine ecosystem management are concerns about air pollution, marine biosecurity, including ballast water and invasive species, impacts of pollution accidents such as oil spills, marine litter and dumping of waste, the establishment of Special Areas and Particularly Sensitive Sea Areas, ship breaking and recycling, seafarer competency and capacity building, and port and maritime security.

Methods to Achieve goals

In 2007, the International Maritime Organization (IMO) undertook a review of MARPOL Annex VI: Prevention of Air Pollution from Ships, with an aim to reduce ship emissions, which are responsible for approximately 10% of total air emissions. Ships contribute 15% of global nitrogen oxide (NO_x) emissions and between 5 to 8% of global sulfur oxide (SO_x) emissions. At the 57th Session (March-April 2008) of the Marine Environment Protection Committee (MEPC), an agreement was reached on proposed amendments to Annex VI to progressively reduce SO_x emissions, with an initial reduction from 4.50% to 3.50%, effective from 1 January 2012; then progressively to 0.50 %, effective from 1 January 2020, subject to a feasibility review to be completed no later than 2018. SO_x emission limits in Sulphur Emission Control Areas (SECAs) would be reduced from a current 1.50% to 1.00% beginning on 1 March 2010; a further reduction to 0.10% would become effective on 1 January 2015. The amendments also call for progressive reductions in NO_x emissions. These amendments will be considered for adoption during the 58th Session of MEPC in October 2008. The IMO is also working on greenhouse gas emissions from ship, with a Working Group on GHG Emissions from Ships developing short and long-term approaches to reducing greenhouse gases from ships.

As seen above, the Johannesburg Plan of Implementation calls for States to “enhance maritime safety and protection of the marine environment from pollution by actions at all levels to:

(a) Invite States to ratify or accede to and implement the conventions and protocols and other relevant instruments of the International Maritime Organization relating to the enhancement of maritime safety and protection of the marine environment from marine pollution and environmental damage caused by ships, including the use of toxic anti-fouling paints, and urge the International Maritime Organization (IMO) to consider stronger mechanisms to secure the implementation of IMO instruments by flag States;

(b) Accelerate the development of measures to address invasive alien species in ballast water. Urge the International Maritime Organization to finalize its draft International Convention on the Control and Management of Ships' Ballast Water and Sediments.”

There have been steps forward in meeting these objectives. MARPOL Annex VI entered into force on 19 May 2005, and to date has 54 Parties, compared to over 100 Parties for each of the other Annexes. The International Convention on the Control of Harmful Anti-fouling Systems on Ships, which prohibits the use of harmful organotins, such as tributyltin (TBT), in anti-fouling paints used on ships, will enter into force on 17 September 2008. To date, the Anti-Fouling Convention has 35 Parties. The International Convention for the Control and Management of Ships' Ballast Water and Sediments, adopted in February 2004, has yet to enter into force and has only received 16 signatures, representing 14.24% of world tonnage. The Convention requires ratification by 30 States, representing 35% of world tonnage, to enter into force.

Challenges

Marine biosecurity remains an issue of concern for a large number of States. Ships' ballast water transports over ten billion tons of ballast per year. A ship can carry over 7000 species of microbes, plants and animals at any one time. In order to manage the invasion process, States need prevention, border controls, surveillance and incursion response, and pest management abilities. A number of key strategies to improve marine biosecurity include building capacity, developing economic policies and tools, strengthening legal and institutional frameworks, building public awareness, and promoting international cooperation on marine biosecurity.

Other issues of concern are handled through the IMO. For example, the IMO is considering a draft convention to address ship breaking. The Working Group on Maritime Transportation is being organized to develop a venue for stakeholders to promote policy ideas that could address maritime transportation issues related to the accomplishment of WSSD goals on oceans, coasts, and small island developing States (SIDS).

Major Foci of the Working Group

1. Enhance protection of the marine environment from pollution
2. Encourage and support the designation of Special Areas and Particularly Sensitive Sea Areas
3. Improve port and maritime transportation safety and security
4. Preserve underwater cultural heritage

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
1. Enhance protection of the marine environment	--National governments: ratify	--Promote ratification of IMO	--IMO Assembly Meeting

<p>from pollution</p> <p>--Improve the preparedness of states for spills close to shores and improve capacity in terms of equipment and personnel training in emergency response</p> <p>--Improve enforcement of Oil Preparedness and Hazardous Waste Recovery plans aboard vessels</p> <p>--Provide adequate reception facilities in port states for ships to unload their wastes</p> <p>--Provide adequate facilities and competent human resources for vessel deconstruction and conduct a study on the development of an international convention that will set standards for vessel deconstruction</p> <p>--Encourage the use of fuel mix and the practice of using port generators for running engines when loading and unloading cargo to reduce pollution emissions from ships</p>	<p>related IMO Conventions and other related agreements; implement provisions of the agreements</p>	<p>Conventions related to marine environment</p> <p>--Highlight successful initiatives in maritime safety and protection of the marine environment from pollution to demonstrate their value</p> <p>--Invite maritime industry to participate in this Working Group</p>	<p>December 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>
<p>2. Encourage and support the designation of Special Areas and Particularly Sensitive Sea Areas</p> <p>--Reduce the transfer of harmful aquatic organisms and pathogens in ships' ballast water by encouraging the implementation of the IMO ballast water Guidelines and by encouraging States to ratify the IMO ballast water Convention</p>	<p>--National governments: develop national marine biosecurity plans (marine biosecurity should receive the kind of management effort dedicated to reducing marine pollution)</p> <p>--International organizations: encourage GEF-LME Programmes to include marine biosecurity as a priority issue</p> <p>--Progress the CBD-GISP-UNEPRS Joint Work Programme on Marine Bioinvasion</p>	<p>--Include marine biosecurity as an ongoing theme/sub-theme, either within individual Working Groups or as part of the Maritime Transportation Working Group</p> <p>--Collaborate with IMO and the media in expanding the geographical reach of the GloBallast Program by highlighting its initial successes and promoting the application of the IMO ballast water guidelines</p>	<p>--IMO Assembly Meeting December 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>

<p>3. Improve port and maritime transportation safety and security</p> <p>--Improve port and maritime transportation security to safeguard against the possibilities of terroristic attacks</p> <p>--Improve the supply and competency of seafarers by encouraging the application of the Standards of Training, Certification, and Watchkeeping Convention</p>	<p>--National governments: ratify related Conventions / agreements; implement provisions of the agreements</p>	<p>--Promote adoption / implementation of related agreements</p>	<p>--IMO Assembly Meeting December 2008</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>
<p>4. Preserve underwater cultural heritage</p> <p>--Encourage/require salvors to take best efforts to preserve the cultural heritage in the world's oceans by taking responsibility for historical artifacts and their proper disposition to museums and other institutions; encourage the ratification of the Underwater Cultural Convention</p>	<p>--National governments: ratify related agreements; implement provisions of the agreements</p> <p>--Academia / museums: provide best practices for preserving underwater cultural heritage</p>	<p>--Link with the Working Group on Marine Biodiversity and Networks of MPAs (Underwater cultural heritage is often protected by an MPA)</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>

III. Improve Governance of Marine Areas Beyond National Jurisdiction

Improve Governance of Marine Areas Beyond National Jurisdiction

Major Findings:

WSSD Goals

Relating to marine biodiversity

- Maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction.
- Integrate the objectives of the Convention on Biological Diversity into global, regional and national sectoral and cross-sectoral programmes and policies, in particular in the programmes and policies of the economic sectors of countries and international financial institutions.
- To effectively conserve and sustainably use biodiversity, promote and support initiatives for hot spot areas and other areas essential for biodiversity and promote the development of national and regional ecological networks and corridors.
- Promote the wide implementation of and continued work on the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of Benefits arising out of their Utilization, as an input to assist the Parties when developing and drafting legislative, administrative or policy measures on access and benefit-sharing as well as contract and other arrangements under mutually agreed terms for access and benefit-sharing.
- Negotiate within the framework of the Convention on Biological Diversity, bearing in mind the Bonn Guidelines, an international regime to promote and safeguard the fair and equitable sharing of benefits arising out of the utilization of genetic resources.
- Promote practicable measures for access to the results and benefits arising from biotechnologies based upon genetic resources, in accordance with articles 15 and 19 of the Convention, including through enhanced scientific and technical cooperation on biotechnology and biosafety, including the exchange of experts, training human resources and developing research-oriented institutional capacities.
- Promote the implementation of the programme of work of the Global Taxonomy Initiative.

Relating to fisheries

- Ratify or accede to and effectively implement the relevant United Nations and, where appropriate, associated regional fisheries agreements or arrangements, noting in particular the...1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.
- Encourage relevant regional fisheries management organizations and arrangements to give due consideration to the rights, duties and interests of coastal States and the special requirements of developing States when addressing the issue of the allocation of share of fishery resources for straddling stocks and highly migratory fish stocks...on the high seas and within exclusive economic zones.

Background

Marine areas beyond national jurisdiction—which include more than 60% of the world’s oceans—represent the last and largest global commons on Earth. These areas are highly rich in biological diversity which plays a crucial role in the functioning of marine ecosystems. Scientific evidence is beginning to demonstrate that loss in biodiversity could well lead to significant declines in ecosystem function, and may well threaten the life support systems of the oceans. The impacts of climate change, such as ocean warming and ocean acidification, are likely to produce significant adverse impacts which are not yet fully understood. These areas, just as areas within national jurisdiction, also host a wide variety of important human activities which provide significant benefits to global, regional, and national economies. Examples include the maritime transportation industry which carries 90% of the world’s goods, the submarine cable industry which provides for the vital links that sustain communication among all peoples on earth, the oil and gas industry which provides essential energy

resources, the fishing industry which contributes to food security and is a source of livelihood for 400 million fishers around the world, and the biotechnology industry which utilizes the oceans' biodiversity for a wide array of important products from cancer drugs to cleaners to beauty supplies.

In 2005, the Global Forum initiated an informal process to bring together major relevant interests in open and constructive multi-stakeholder policy dialogues to inform and support the formal processes established by the United Nations General Assembly regarding governance of marine areas beyond national jurisdiction. This work has been supported by the Nippon Foundation of Japan and other partners. Two major workshops on these issues were held in 2008: in Nice, France and in Hanoi, Vietnam. Workshop participants emphasized that there is an *urgent need* to begin to move toward an area-based integrated approach to governance of areas beyond national jurisdiction to govern marine areas beyond national jurisdiction, which represent the last and largest global commons. Area-based management measures are important tools for implementing the ecosystem approach in marine areas beyond national jurisdiction, for the mutual benefits of all concerned stakeholders. The problems of the oceans tend to be interlinked and should be considered as a whole. Area-based management, which integrates sectoral approaches, can be used as an operational framework for achieving a balance between conservation and sustainable use of marine areas beyond national jurisdiction. Area-based management measures are part of a system of management measures and tools that connect various conservation approaches, collaboration and cooperation, and monitoring and evaluation. Area-based management approaches should also be used to link marine areas beyond national jurisdiction with areas within national jurisdiction.

Methods to Achieve Goals

Participants in the workshops identified three major factors that catalyze the need for improved governance: 1) the effects of uses on marine biodiversity and on the marine environment. Census of Marine Life participants noted that reduction of marine biodiversity may be associated with exponential reductions of ecosystem functions, for example a 20-25% species loss can cause a reduction of 50 to 80% of ecosystem functions; 2) the effects of uses on one another (for example, effects of fishing on submarine cables); and 3) the effects of the disturbances of the oceans from climate change, as well as the associated feedbacks from climate changes that are expected to exacerbate the forces that are leading to increases in biodiversity loss in the oceans. Participants identified the following major governance gaps: 1) lack of capacity to manage multiple uses and cumulative impacts on the marine environment and on marine biodiversity; 2) the absence of a governance framework for marine genetic resources; and 3) the absence of governance frameworks for new and emerging uses of the sea, such as carbon sequestration and storage and iron fertilization.

There is urgency to achieve effective ocean management within and across areas beyond national jurisdiction, as well as in areas within national jurisdiction and continuously throughout the two, in view of strong evidence of threats to our life-supporting system and security due to extra vulnerabilities of ecosystems caused by climate change and the spillovers into broader ecosystem functions from current uses of resources in these areas. In this context, there is a need to ensure mechanisms to cooperate for generating the knowledge needed for adequate management of marine areas beyond national jurisdiction. Recent scientific findings demonstrating this sense of urgency include work by the Intergovernmental Panel on Climate Change (IPCC) on the risks posed by climate change in terms of disrupting the structure and functionality of ocean systems. Moreover, there is evidence that the combined impacts of climate change, pollution, overexploitation of living resources, destructive fishing practices, introduction of alien species and harmful effects of the exploration and exploitation of non-living resources imply that the major ocean systems are affected by environmental impacts arising from traditional uses of the oceans.

There is a need for coordination and cooperation nationally, regionally and globally, both at the intergovernmental as well as the governmental levels, in order to achieve integrated outcomes, if marine areas beyond national jurisdiction are to be managed sustainably for the benefit of current and future generations of the international community. Efforts towards international coordination of actions undertaken by individual governments through intergovernmental organizations should be optimized and expanded. Equally, institutional coordination should be ensured at the national level. There are precedents of effective cooperation both at the regional and global levels, but there is a need to build on these. Moreover, the issue of coordination also concerns the scientific community, in that it is important that the latter continues organizing and coordinating its activities so as to continue developing the knowledge needed for making decisions on the sustainable management of marine areas beyond national jurisdiction.

Marine genetic resources are currently the subject of discussions in relation to access and the potential for their applications such as pharmaceuticals and industrial processes, as well as with regard to the sharing of the benefits arising from their utilization. Their legal status is also being discussed. These discussions should continue in an appropriate forum. Various dimensions of the issue of marine genetic resources in areas beyond national jurisdiction (scientific, technical, technological, economic, socio-economic, environmental, policy and legal) still need to be further informed and debated in an open and transparent manner, in order to consider all relevant views and options available to address this emerging issue.

Capacity for area-based assessment and planning in areas beyond national jurisdiction is, at present, quite limited. There are some informal efforts at assessment, such as the Census of Marine Life. The “Assessment of Assessments” – the preparatory stage of a regular process for global reporting and assessment of the state of the marine environment – may ultimately provide adequate area-based information. There is, however, little capacity at present to assess and respond, in particular, to the effects of climate change.

Challenges

The question of governance in areas beyond national jurisdiction (ABNJ) is a major issue which countries will need to address over the next decade. While there has been substantial progress in recent years in achieving integrated governance of oceans in areas under national jurisdiction and in regional seas areas, governance of ABNJ remains largely sectorally-based, fragmented, and inadequate. This means that it is difficult to address inter-connected issues (such as the impacts of human uses on the environment, multiple-use conflicts among users, and responses to climate change effects) through an integrated and ecosystem-based approach. There are, moreover, significant differences of opinion among stakeholders regarding what actions need to be taken to improve governance in ABNJ, especially regarding the question of distribution of benefits from the uses of biodiversity in these ocean areas.

Major Foci of the Working Group

1. Carry out detailed study of the various governance options, their pros and cons, and possible means for implementing the options
2. Enhance the capacity of states to address issues in areas beyond national jurisdiction
3. Stakeholder outreach
4. Special focus on benefit sharing

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps – Timing
<p>1. Institutionalize the United Nations General Assembly <i>Ad Hoc</i> Open-ended Informal Working Group</p> <p>--The <i>Ad Hoc</i> Open-ended Informal Working Group is the regular mechanism that provides the forum with current information to pursue discussions and make recommendations on issues related to marine</p>	<p>--UN General Assembly and UN Ad Hoc Working Group</p>	<p>--Bring Working Group Co-chairs’ report to the attention of UN Member States</p> <p>--Organize Third Workshop on Governance of Marine Areas Beyond National Jurisdiction, scheduled to be held at the</p>	<p>--3rd Workshop on Governance of Areas Beyond National Jurisdiction, November 2008</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p>

<p>biodiversity in areas beyond national jurisdiction, including the equitable and efficient utilization as well as the conservation of on marine genetic resources</p>		<p>Singapore Botanic Gardens (Co-sponsored with the Government of Singapore)</p>	<p>--International Seabed Authority 15th Session, August 2009, Kingston, Jamaica</p>
<p>2. Carry out detailed study of the various governance options, their pros and cons, and possible means for implementing the options</p> <p>--Consider encouraging experiments in ecosystem-based governance in particular regions beyond national jurisdiction (examples: OSPAR, Benguela Current Large Marine Ecosystem)</p>	<p>--UN Ad Hoc Working Group</p>	<p>--Provide an overview of the governance issues and options in marine areas beyond national jurisdiction (analyze costs/benefits of options, and their administrative and political feasibility)</p>	<p>--Fifth Global Conference 2010</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--International Seabed Authority 15th Session, August 2009, Kingston, Jamaica</p>
<p>3. Enhance the capacity of states to address issues in areas beyond national jurisdiction</p> <p>--Make the case that special funding will be needed to address governance of areas beyond national jurisdiction since these are part of the global commons, and seek changes in the procedures followed by the Global Environment Facility to allow for such funding</p>	<p>--UN Ad Hoc Working Group</p>	<p>--Solicit multi-stakeholder perspectives on the issues</p> <p>--Initiate an ongoing process to facilitate dialogue among the key stakeholders, including developed and developing countries, on the more contentious issues in the governance of marine areas beyond national jurisdiction</p>	<p>--Fifth Global Conference 2010</p> <p>--3rd Workshop on Governance of Areas Beyond National Jurisdiction, November 2008</p>
<p>4. Stakeholder outreach</p> <p>--Carry out a study on the economic constraints and opportunities faced by ocean industries</p>	<p>--UN Ad Hoc Working Group</p> <p>--Research institutes, educators/aquaria/media</p>	<p>--Act globally to raise awareness about issues of lack of jurisdiction over one half of the planet's surface</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p>
<p>5. Special focus on benefit sharing</p> <p>--Carry out a study on experiences in benefit sharing in other areas</p>	<p>--UN Ad Hoc Working Group</p>	<p>--Provide an overview of the range of modes of benefit sharing</p>	

IV. Cross-Cutting Issues

- Compliance and Enforcement
- Capacity Building
- Public Education

Compliance and Enforcement

Major Findings:

WSSD Goals

Compliance and enforcement affects all of the WSSD goals related to oceans and coasts as it is required to ensure the agreed to goals and targets are being met.

Background

The effectiveness of multilateral environmental agreements (MEAs) is frequently limited by poor implementation and insufficient enforcement necessary to ensure compliance. The Parties to MEAs often have limited technical, financial, and personnel capacity, lack of political will, and face other pressing issues, making it difficult for them to fully implement each agreement. In most cases related to coastal and ocean resources, enforcement takes place at the national level. At-sea enforcement is particularly difficult due to the vast space, challenging conditions, difficulties in detection, lack of clear enforcement mandate, and costly equipment needed to conduct enforcement operations.

Methods to Achieve Goals

While the international community has made significant strides in developing agreements, rules, and regulations to improve ocean and coastal management, compliance and enforcement of these instruments often lags. This is true at the international, national, and sub-national levels. This is due variously to insufficient institutional mechanisms and mandates, capacity, and political will. Improving compliance and enforcement of ocean and coastal management, then, requires a range of initiatives. These include developing and strengthening compliance mechanisms at the international level, as well as enhancing national and sub-national capacity to implement and enforce. The approaches will necessarily include a suite of regulatory and nonregulatory mechanisms (including incentives, planning, and information-based approaches).

Challenges

A number of obstacles exist that prevent effective compliance and enforcement of ocean and coastal agreements. Flags of convenience offer ship owners the opportunity to reduce operating costs and avoid stringent regulations. Open-access countries have little financial incentive to change registration or enforcement policies. A second obstacle relates to the fact that land-based marine pollution is difficult to identify in terms of nonpoint and atmospheric sources. Vessel source pollution poses a third obstacle. It is estimated that operational oil discharge from compliant tankers is 34 tons per year, whereas operational oil discharge from non-compliant tankers is 1,129 tons per year. (Worldwide, it is estimated that 85% of commercial vessels and 70% of other vessels are compliant with MARPOL regulations on bilge oil discharge.)

Major Foci of the Working Group

1. Increase international support for existing international and multilateral instruments that seek to increase compliance with ocean laws and policies

2. Strengthen flag state control over registered vessels
3. Strengthen regional collaborative approaches to achieving compliance
4. Increase use of market-based approaches to achieve compliance and increase/rationalize penalties
5. Increase political will to expand compliance and enforcement programs through non-governmental approaches and public education

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Increase international support for existing international and multilateral instruments that seek to increase compliance with ocean laws and policies</p> <p>--Expand accessions to the High Seas Compliance Agreement; strengthen the Straddling Stocks Agreement; expand non-party implementation of the treaties and resolutions adopted by RFMOs; and encourage states to develop national plans of action to prevent, deter, and eliminate IUU fishing</p> <p>2. Strengthen flag state control over registered vessels</p> <p>--Expand accession to the High Seas Compliance Agreement; build support for a common definition of “genuine link” in customary international law; encourage states to have a centralized VMS receiving stations in multilateral fisheries to prevent tampering with VMS data; explore the development of dedicated access privilege programs/ITQs/catch shares programmes in international fisheries; expand the use of AIS beyond commercial shipping vessels</p> <p>--Increase compliance of existing marine protected areas in remote EEZs by expanding use of remote sensing to detect illegal activity; and use of satellite monitoring to detect illegal discharges or IUU fishing</p>	<p>--International level: increase international support for existing international and multilateral instruments</p> <p>--National level: promote integrated control measures</p> <p>--International level: strengthen flag state control over registered vessels</p>	<p>--Continue dialogue, bringing in more people, institutions, and perspectives</p> <p>--Short political statement on the importance of compliance and enforcement</p> <p>--Develop political message and technical resources</p>	<p>--25th Session of the Governing Council/Global Ministerial Environment Forum, Nairobi, February 2009</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--UNFSA Review, 2010/2011</p> <p>--CSD 22, 2014</p>

<p>3. Strengthen regional collaborative approaches to achieving compliance</p> <p>--Provide easy access to information through the use of shared databases and web-based information dissemination, e.g., the Monitoring, Control and Surveillance Network, positive/negative lists of vessels</p> <p>--Promote integrated control measures that enhance compliance and enforcement of coastal and ocean laws through data cross-validation and effective and efficient sharing of scarce human and technical resources</p>	<p>--Regional actors/Regional organizations: government agencies, GEF, Regional Seas and Regional Fisheries programmes</p>	<p>--Data dissemination and promotion of available networks</p> <p>--Regional needs assessments</p>	<p>--25th Session of the Governing Council/Global Ministerial Environment Forum, Nairobi, February 2009</p> <p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--CSD 22, 2014</p>
<p>4. Increase use of market-based approaches to achieve compliance and increase/rationalize penalties</p> <p>--Increase use of approaches such as catch certification and labeling systems, e.g., ecolabeling programs</p> <p>--Reflect damage to the resource and deter continued violations through application of command-and-control and other methods</p>	<p>--National level: increase use of market-based approaches to achieve compliance, including both measures targeting consumers (e.g., ecolabelling) and market State controls</p> <p>--National level: make penalties more appropriate and effective</p>	<p>--Longer technical document identifying approaches for compliance and enforcement, lessons learned in different contexts, and options</p>	<p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--CSD 22, 2014</p>
<p>5. Increase political will to expand compliance and enforcement programs through non-governmental approaches and public education</p> <p>--NGO-led campaigns to raise public awareness about high-profile illegal fishing activities such as for the Patagonian toothfish fishery and discourage consumers to purchase fish from potentially illegal operators</p> <p>--Encourage compliance through increased public participation and education through programs aimed at raising public awareness, creating pressure groups and heightening transparency, accountability, and monitoring</p>	<p>--NGOs, Public Education/Media: improve compliance through increased public participation, education, awareness raising, and engagement of different sectors (including communities, private sector, women, etc.)</p>	<p>--Raise funds for project through collaboration with outside organizations, e.g. European Commission, Environmental Law Institute</p>	<p>--Manado Conference 2009</p> <p>--ICP-10, June 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 22, 2014</p>

Capacity Development

Major Findings:

WSSD Goals

Capacity building affects all of the WSSD goals related to oceans and coasts as it is required to enable the international community to implement the provisions of related conventions and/or agreements.

Background

Capacity Development is an investment in people, institutions and society to realize and maximize the values of the resources and areas. Capacity development projects can take a variety of forms, including improving policy, legal and institutional processes; building technical skills to perform institutional mandates more effectively; and sharing information and lessons. In civil society, capacity development empowers people to understand and resolve issues, make informed choices and maximize opportunities.

Methods to Achieve Goals

Capacity development on ecosystem-based integrated coastal and ocean management is essential to achieve sustainable development of oceans and coasts and the development of suitable responses to address climate change, preserve biodiversity and resources, provide for sustainable livelihoods from oceans and coasts, as well as respond to new and emerging challenges. Although a great deal of funding and development support from various donors has gone towards capacity development projects, the on-the-ground results in terms of long-term and in-country and in-region institutionalized capacity development have been disappointing.

Challenges

A number of barriers exist that inhibit successful capacity development projects. The 2008 National Research Council report outlines these barriers to success, which are summarized here. A lack of project ownership can result in the national government and/or local community never becoming engaged in the project. Without local engagement, these programs generally die out when external funding ends. Related to a lack of ownership is the absence of political will. If the national or local policy makers are unaware of the project and its importance, there is little incentive to continue with the project. The limited engagement of stakeholders in a capacity development project often leads to project failure, as the program designers did not build in synergies within the national/local policies and discussed options. The majority of capacity development projects are funded for short periods of time. In order to achieve success and sustainability, a capacity development project requires long-term support. Unfortunately, most donors are unable to commit funds for more than five to six years, resulting in a short time period for project development and implementation. Furthermore, many of the funded projects are fragmented, with no connection to each other, which leads to a lack of linkages between sectors and other capacity development projects. Many donors lack any coordination among them – a single sector focus, attention at only one level of government, or attention at only the community level, and program fragmentation are all problems resulting from this failure to coordinate.

Between 2005 and 2008, the Global Forum, with GEF support, carried out eight regional capacity assessments which aimed to:

- Identify and address long-term capacity building needs;
- Identify needs, gaps, and opportunities for partnerships and for funding from public and private sources; and
- Propose a strategic solution to the identified gaps and needs.

The results of these assessments show that there is a need for long-term funding and commitment to achieve the institutionalization of capacity in ocean and coastal management, a need to enhance in-country and in-region capacity, and a need for study materials and curriculum geared towards national needs and in the relevant national languages. There is a need for a strategic framework for developing and enhancing capacity for ocean and coastal governance. Sound governance of oceans, coasts, and small islands is needed and can be achieved by promoting political will to mainstream oceans agenda, promoting a new generation of ocean leaders; establishing effective and credible institutions, and empowering the citizenry to demand greater accountability and transparency in ocean resource management. Incentives must be created in order to retain those whose capacity has been developed (e.g. intellectual motivation, social acceptability, financial benefits and security of employment). Investment in science is a prerequisite for the development of sound policy for ocean governance. Preparation for and adaptation to climate change requires significant investment in developing capacity. A robust scientific agenda will result in the identification of scientific solutions to reduce impacts on the most vulnerable communities at risk due to climate change, e.g. SIDS. A strategic framework will also require the consideration of poverty, local empowerment, and sustainable livelihoods. Capacity development to improve the governance of oceans and coasts can play a significant role to promote empowerment of these communities to manage their resources better and to adopt more sustainable livelihoods.

Major Foci of the Working Group

1. Support regional institutions (e.g. COSMAR, WIOMSA, CPRP) to be more effective in promoting sound governance of ocean and coastal ecosystems
2. Conduct a high-level multi-donor (public and private), multi-partner conference
3. Improve GEF co-financing regarding in-country long-term capacity building
4. Enhance the ocean and coastal management curricula of the University Consortium of Small Island States

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Support regional institutions (e.g. COSMAR, WIOMSA, CPRP) to be more effective in promoting sound governance of ocean and coastal ecosystems</p> <p>--Support both national and regional fisheries organizations to adopt ecosystem approach to fisheries management; promoting networks of MPAs; and promote sustainable livelihoods, including identifying markets and credit facilities</p>	<p>--Regional actors/Regional organizations: government agencies, GEF, Regional Seas and Regional Fisheries programmes</p>	<p>--Support regional institutions (e.g. ocean leadership in the African Union, Networks of MPAs with WIOMSA, cultural linkages and partnerships with CPRP); sustainable livelihoods with CTI</p> <p>--Promote ocean leaders in partnership with global/regional organizations, i.e. AOSIS, WIO, GEF/ASLME, WIOMSA, CTI</p>	<p>--CSD 14, May 2009 (SIDS day)</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 22, 2014</p>
<p>2. Conduct a high-level multi-donor (public and</p>	<p>--Seek sponsorship from GEF,</p>	<p>-- Facilitate a high-level multi-</p>	<p>--CSD 14, May 2009 (SIDS</p>

<p>private), multi-partner conference</p> <p>--Focus on: the development of an agreed strategic approach to capacity development on oceans, coasts, and SIDS; greater collaboration to reduce risk, inefficiency; financial modalities/instruments; leverage further resources for priority areas/themes; and develop collaboration with private foundations that supported the NAS study on capacity development (e.g., Moore Foundation, McArthur Foundation, Exxon-Mobil, Shell, etc.)</p>	<p>private sector, bilateral and multilateral donors, etc.</p>	<p>donor (public and private) multi-partner conference on capacity development</p>	<p>day)</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 22, 2014</p>
<p>3. Improve GEF co-financing regarding in-country long-term capacity building</p> <p>--Special emphasis on several groups of countries: 44 Small Island Developing States (SIDS); Coral Triangle Initiative Countries (Indonesia, East Timor, Malaysia, Philippines, Papua New Guinea, and Solomon Islands); East Africa (New Partnership for Africa's Development (NEPAD)); and the 8 countries in the Community of Portuguese-Speaking Nations (Portugal, Brazil, Angola, Cape Verde, Guinea-Bissau, Mozambique, São Tomé and Príncipe, and Timor-Leste)</p>	<p>--GEF / Donor agencies</p> <p>--National governments</p>	<p>--Ocean/Climate Strategy and Vision/Leadership Training for High-Level Decisionmakers from around the World (focus on permanent ocean officials in-country and permanent representatives to the UN)</p>	<p>--CSD 14, May 2009 (SIDS day)</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 22, 2014</p>
<p>4. Enhance the ocean and coastal management curricula of the University Consortium of Small Island States</p> <p>--Enhance education in marine affairs/policy for the next generation of ocean leaders (through regional consortia of universities) with a special emphasis on the University Consortium of Small Island States</p>	<p>--University Consortium of Small Island States</p> <p>--Academia/research institutions</p> <p>--Public education/media</p>	<p>--Support the development of technical skills in: adaptation to climate change; EEZ and CS demarcation; improvements in desalinization technologies; research in tidal energy, ocean acidification; negotiation of access agreements (fisheries, oil and gas)</p>	<p>--CSD 14, May 2009 (SIDS day)</p> <p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--CSD 22, 2014</p>

Public Education and Outreach

Major Findings:

WSSD Goals

Public Education and Outreach affects all of the WSSD goals related to oceans because the main purpose of Public Education and Outreach is to support international ocean-related goals by educating the public, media, and educators on the main issues facing oceans and coasts.

Background

One of the obstacles to achieving ocean-related goals is the lack of public awareness on many topics related to oceans and coasts. This information must be disseminated to all levels of the public from intergovernmental bodies to national education efforts and down to the community and individual levels. The World Ocean Network and the Global Forum on Oceans, Coasts, and Islands have worked together since the World Summit on Sustainable Development in 2002 in a symbiotic relationship whereby the Global Forum has produced policy messages about global oceans goals and their effective implementation and the WON has translated and widely disseminated these messages to publics around the world, always emphasizing the centrality of changes in individual behavior as a major path to change.

Methods to Achieve Goals

Bringing Public Education and Outreach to a variety of stakeholders around the world is a crucial component to further the global oceans agenda. The heart of the strategic plan involving Public Education and Outreach focuses on the dissemination of public awareness in all of the other areas of focus, thereby achieving greater impact in all areas through broader dissemination of information. This dissemination includes attending and organizing workshops, conferences, and meetings to enhance written materials and objectives on the various areas of focus to a diversity of audiences including the public, governments, intergovernmental bodies, and nongovernmental organizations. By educating the educators, policymakers, and the media on these issues, greater public outreach can be expected as the information will filter to more of the public and more international targets than can be reached by using broad public education goals. Reaching the public directly through the media and direct public education efforts is also important on the individual and community levels in areas such as adaptation strategies and general knowledge about the oceans. The Public Education and Outreach efforts go hand-in-hand with the capacity working group efforts to increase human and financial capacity to achieve ocean-related goals to 2015.

By 2015, the World Ocean Network and its partners would like to have the ability to gather together 600 active organizations able to mobilize up to 1000 participating organizations in 120 to 150 countries, reaching an audience of 300 million people per year. Governments should also include ocean education in their education curricula. As part of these efforts, the Global Forum will most actively participate by reaching current ocean leaders around the world on capacity development and public outreach. The Global Forum will also work with universities, training institutes, and national leaders to mold the next generation of ocean leaders. Concurrently, the World Ocean Network plans to organize the World Ocean International Academy in 2009, aimed at bringing together the media, leaders of ocean aquaria and museums, and global oceans experts.

Challenges

Internalization of ocean education initiatives is the toughest challenge on the individual level. Meaningful impacts must be demonstrated to the public on this level for internalization to occur. Accordingly, educators, policymakers, and the media must also internalize ocean education if they are to promote these initiatives in education curricula, at international meetings, in setting policy agendas, and teaching the public through example. Another challenge is raising the financial and human capacity resources it will require to implement the public education efforts outlined by the Working Group.

Major Foci of the Working Group

1. Encourage stakeholders and the public to deepen their awareness of ocean and coastal issues and their connectedness
2. Encourage stakeholders and the public to commit themselves to sustainable use of the oceans
3. Empower people to take concrete actions to resolve ocean issues and challenges

Major Recommendations	Major Actors Aimed At	Possible Global Forum Role	Next Steps - Timing
<p>1. Encourage stakeholders and the public to deepen their awareness of ocean and coastal issues and their connectedness</p> <p>--Promote the concept of a “World Ocean” through exhibits and other information campaigns; incorporate ocean and coastal management information in school curricula; and organize information and other special events during the celebration of World Ocean Day</p>	<p>--WON/media: encourage and empower individuals and local, regional, and international information initiatives and promote concrete sustainable actions at the individual and community levels; continue to hold and participate in meetings and workshops for educators; install thousands more public education displays around the world by 2015; provide education curricula to educational bodies</p>	<p>--Disseminate information for the public at all meetings and conferences including deliberations of the Global Forum Working Groups</p> <p>--Continue working with WON and other partners to increase awareness of the oceans through workshops, meetings, and designated events</p> <p>--Continue working with W2O in creating specialized video clips and websites to broadly promote ocean conservation</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--World Ocean International Academy 2009</p> <p>--World Ocean Day, June 8 annually</p>
<p>2. Encourage stakeholders and the public to commit themselves to sustainable use of the oceans</p> <p>--Provide timely information on sustainable consumption and other practices and opportunities for individual and community action and practice</p> <p>--Gather all concerned organizations in a joint effort to push national governments to include ocean matters in education curricula</p>	<p>--Governments: include ocean education in school curricula</p> <p>--Intergovernmental bodies: official endorsement from the DESD Secretariat</p> <p>--Designation of World Ocean Day as an official UN International Day</p>	<p>--Provide input to WON on the materials developed for the public education displays</p> <p>--Educate the media on ocean-related issues so they can report from a more informed perspective</p> <p>--Engage government leaders in adopting ocean education</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--World Ocean International Academy 2009</p> <p>--World Ocean Day, June 8 annually</p>

<p>--Adopt concrete sustainable actions, at the individual level, such as adopting behavior and consumption habits that show more respect for the ocean</p> <p>--Celebration of World Ocean Day on June 8 annually; increasing to 140 million people in celebration by 2015</p> <p>3. Empower people to take concrete actions to resolve ocean issues and challenges</p> <p>--Organize and encourage public participation in stakeholder debates and organize youth parliaments aimed at enhancing the involvement of young people in ocean stewardship and governance</p> <p>--Organize stakeholder debates and public debates by all WON participants around the world and in partnership with all Global Forum working group themes</p> <p>--Organize regional youth forums, youth consultations in conjunction with international ocean conferences, and to make the International Youth Parliament for the Ocean a yearly event</p>	<p>--WON/media</p> <p>--Education and museum professionals: use of the Ocean Info Pack to rally hundreds of science mediators, nature specialists, and media to demonstrate the importance of communicating ocean matters to the public</p> <p>--WON: mobilize millions of Citizens of the Ocean in 120 countries</p> <p>--Youth: participate in regional youth forums, attend youth consultations in conjunction with international ocean conferences, and participate in the International Youth Parliament for the Ocean</p>	<p>--Work with universities, training institutes, and national leaders to mold the next generation of ocean leaders through a World Ocean Academy</p> <p>--Support designation by promoting World Ocean Day activities to government and intergovernmental leaders</p>	<p>--Manado Conference 2009</p> <p>--Fifth Global Conference 2010</p> <p>--World Ocean International Academy 2009</p> <p>--World Ocean Day, June 8 annually</p>
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