



Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options



Executive Summary

November 3-5, 2008, Singapore

Organized by the Global Forum on Oceans, Coasts, and Islands, the National Parks Board, Singapore, and the University of Delaware Gerard J. Mangone Center for Marine Policy, with funding support from the Nippon Foundation, Japan, and the Global Environment Facility



The Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options was the third in a three-part series of workshops examining issues and options pertaining to the governance of marine areas beyond national jurisdiction. It was organized by the Global Forum on Oceans, Coasts, and Islands, the Gerard J. Mangone Center for Marine Policy at the University of Delaware, and the National Parks Board, Singapore, with funding support from the Nippon Foundation, Japan, and the Global Environment Facility.

The Workshop was part of an informal process to bring together major relevant interests to facilitate open and constructive multi-stakeholder dialogue to inform and support the formal processes which have been or may be established by the UN General Assembly regarding this issue. The intent is to contribute to clarifying the issues, laying out various perspectives, developing options, and identifying possible avenues for consensus-building among disparate interests.

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Background

The Global Forum on Oceans, Coasts, and Islands has, since 2001, brought together ocean leaders from governments, UN agencies, NGOs, the private sector, and science groups from 105 countries to advance the global oceans agenda, particularly the implementation of the ocean targets from The World Summit on Sustainable Development and addressing new challenges such as climate change and governance of marine areas beyond national jurisdiction. Since 2005, the Global Forum has been engaged in an informal process to bring together major relevant interests to facilitate open and constructive multi-stakeholder policy dialogue to inform and support the formal processes that have been or may be established by the United Nations General Assembly regarding governance of marine areas beyond national jurisdiction. The general intent is to work to clarify the issues, lay out various perspectives, discuss options, and identify possible avenues for consensus-building among disparate interests.

The question of governance of the 64% of the oceans that lies beyond national jurisdiction looms as a major issue that countries will need to address and negotiate over in the next decade. While there has been substantial progress in recent years in achieving integrated oceans governance in areas under national jurisdiction and in regional seas areas, governance of areas beyond national jurisdiction at present remains largely sectorally-based and fragmented. Thus, it is difficult to address interconnected issues (such as fishing issues; extraction of genetic resources;

maritime transportation; pollution; offshore oil and gas development; marine scientific research; climate change; carbon capture and storage) through an integrated and ecosystem-based approach. There are, moreover, significant differences of opinion among developed and developing countries, industries, and environmental interests, on what, if anything, needs to be done to improve governance of these important ocean areas.

This Workshop is part of a series of workshops, policy analyses, and multi-stakeholder dialogues being carried out under the *Project Governing the Oceans Beyond National Jurisdiction: Multistakeholder Policy Analyses and Policy Dialogues for Improved Ocean Governance*, supported by the Nippon Foundation, Japan, and carried out at the University of Delaware Gerard J. Mangone Center for Marine Policy, which included two past workshops:

- *Strategic Planning Workshop on Global Oceans Issues in Marine Areas Beyond National Jurisdiction in the Context of Climate Change*, January 23-25, 2008, Nice, France
- *Workshop on Ecosystems and Uses in Marine Areas Beyond National Jurisdiction*, held on April 5, 2008 as part of the Fourth Global Conference on Oceans, Coasts, and Islands: Advancing Ecosystem Management and Integrated Coastal and Ocean Management by 2010 in the Context of Climate Change

held in Hanoi, Vietnam, April 7-11, 2008. A report on these two workshops was submitted to the Second Meeting of the UN Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction held in New York on April 28-May 2, 2008.¹

The Singapore Workshop builds on the two workshops noted above and continuing work carried out by the Global Forum's Expert Working Group on Governance of Marine Areas Beyond National Jurisdiction, which includes 72 experts from both developed and developing countries and from a broad range of sectors including national governments, academia, UN agencies, intergovernmental organizations, nongovernmental organizations, and industry and is co-chaired by Salvatore Arico, UNESCO, and Sivu Maqungo, Permanent Mission of South Africa to the United Nations.

Purpose of the Singapore Workshop

The Singapore Workshop aimed to provide expert and multi-stakeholder perspectives on addressing important issues related to the governance of marine areas beyond national jurisdiction, specifically by:

1. *Assessing each of the major management options for improved governance of marine areas beyond national jurisdiction* (ranging along a continuum of enhancing institutional capacity for ecosystem-

¹Cicin-Sain, B., S. Maqungo, S. Arico, and M. Balgos. 2008. Submission of the Global Forum on Oceans, Coasts, and Islands to the UN Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction New York, 28 April – 2 May 2008. Available online at <http://www.globaloceans.org/globalconferences/2008/pdf/GlobalForumSubmission-2ndAdHocWGMeeting-April2008-red.pdf>.

based management), building on the outcomes of the Nice Workshop and of the Hanoi Conference;

2. *Addressing the following focal areas in the management of marine genetic resources: Identifying opportunities and enhancing understanding of values and processes, and issues related to intellectual property, options for access and benefit sharing, and governance gaps*, taking into account the outcomes of the 8th meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP-8, June 2007) and the second meeting of the UN Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (April-May 2008);
3. *Discussing priority activities that might be taken to move toward ecosystem-based governance of marine areas beyond national jurisdiction (including the Arctic)* that could be considered for support through future Global Environment Facility (GEF) funding.

The Workshop was co-chaired by Biliana Cicin-Sain, Global Forum on Oceans, Coasts, and Islands; David Freestone, World Bank; Ambassador Mary Seet-Cheng, Ministry of Foreign Affairs, Singapore; Eden Charles, Permanent Mission of Trinidad and Tobago to the United Nations; and Salvatore Arico, UNESCO, Co-Chair of the Working Group.

Box 1. Acknowledgements

Sincere appreciation is expressed by the Workshop organizers to the Singapore hosts, the National Parks Board of Singapore (NParks), especially Dr. Leong Chee Chiew, Mr. Wong Tuan Wah, and Dr. Nigel Goh of the National Parks Board, and Ambassador Mary Seet-Cheng of the Ministry of Foreign Affairs, Singapore. The great support provided by the NParks staff for an efficiently conducted workshop is sincerely acknowledged.

The Workshop greatly benefited from the wisdom and experience of Ambassador Tommy Koh, Ambassador-At-Large, Ministry of Foreign Affairs, and Chairman of the Institute of Policy Studies, Singapore (President of the Third UN Conference on the Law of the Sea, 1980-1982, and

Chairman of the Preparatory Committee and the Main Committee of the UN Conference on Environment and Development, 1990-1992), in an inspiring keynote address.

Funding support for the workshop from the Nippon Foundation, Japan, and the Global Environment Facility is greatly appreciated.

The workshop also took note and reviewed progress made in the past year in both the formal UN process and in informal venues (see Box 2).

Box 2. Efforts carried out in 2007-2008 and planned for in 2008-2009 to advance discussion on the governance of marine areas beyond national jurisdiction.

Formal Process

1. Second Meeting of the UN Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, April 28-May 2, 2008, New York
2. UN General Assembly discussions, Fall 2008

Informal Process

1. IUCN Workshop on High Seas Governance for the 21st Century, October 17-19, 2007, New York, New York
2. Strategic Planning Workshop on Global Oceans Issues in Marine Areas Beyond National Jurisdiction in the Context of Climate Change, January 23-25, 2008, Nice, France
3. International Seminar on Towards a New Governance of High Seas Biodiversity, March 20-21, 2008, Monaco
4. Workshop on Ecosystems and Uses in Marine Areas Beyond National Jurisdiction, April 5, 2008, Hanoi, Vietnam
5. International conference on marine affairs and the Law of the Sea, Fridtjof Nansen Institute, Oslo, Norway, August 21-23, 2008
6. IUCN World Conservation Congress, October 5-14, 2008, Barcelona, Spain
7. Perspectives from the French Presidency of the European Union, Fall 2008
8. Plans for 2012 Marine Targets: European Marine Strategy and Issues in High Seas, Brest, France, December 9-11, 2008
9. Plans for an Intergovernmental Platform on Biodiversity and Ecosystem Services
10. Plans for the World Ocean Conference, May 11-15, 2009

Special Address by Singapore Ambassador Tommy Koh

Ambassador Tommy Koh provided the opening keynote address on whether the existing international conventions, such as the United Nations Convention on the Law of the Sea (UNCLOS), adequately address emerging governance issues on the use of marine living resources in areas beyond national jurisdiction as opposed to non-living resources in the deep seabed beyond national jurisdiction from his perspective as former President of the Conference that negotiated UNCLOS (Annex I).

Discussion of Major Topics

1. Major Options for Moving Toward Ecosystem-Based Management of Marine Areas Beyond National Jurisdiction

It is generally agreed that there is much experience in how to move toward ecosystem-based integrated management at national levels and at regional levels and that much can be learned from examining these experiences. Ecosystem-based integrated ocean and coastal management is well rooted in international instruments adopted at various fora, starting with Agenda 21 at the 1992 UN Conference on Environment and Development (UNCED) and continuing with the Plan of Implementation of the 2002 World Summit on Sustainable Development (WSSD) and related instruments. At the national level, about 40 nations (incorporating about three-quarters of the world's Exclusive Economic Zones) have moved toward integrated ecosystem-based management by establishing national ocean policies. At the regional trans-boundary level, the application of ecosystem-based and integrated management has taken place, to varying degrees, in the 16 Large Marine Ecosystems supported by the Global Environment Facility and in the 18 Regional Seas Programmes.

In general, some commonalities in moving toward ecosystem-based and integrated

management at both national and regional levels are:²

1. Enunciation and application of governing principles
2. Development of capacity for area-based assessment, planning, and ultimately decision-making
3. Development of institutional capacity for addressing interactions among uses and their effects on biodiversity and the environment
4. Development of capacity for enforcement
5. Funding to support the management interventions.

The discussions at the Nice Workshop conceptually identified the wide range of options available to improve the governance of marine areas beyond national jurisdiction. The options identified include:³

- Enhanced implementation of existing international instruments and their scope of application
- Voluntary codes of conduct
- More effective implementation, strengthening of, or extending, mandates of existing institutions such as Regional Fisheries Management Organizations (RFMOs) and Regional Seas Programmes (RSPs)
- Forming new regional institutions as required
- A new Global Programme of Action on biodiversity in areas beyond national jurisdiction
- A new implementing agreement to the United Nations Convention on the Law of the Sea (UNCLOS) in relation to activities in marine areas beyond national jurisdiction
- An amendment to UNCLOS
- A Protocol to the Convention on Biological Diversity (CBD)
- Other possible approaches to be determined.

Participants at the Nice Workshop also identified a range of options for enhancing cross-sectoral institutional capacity. The options range from “sectoral” on the left side of the continuum to “most cross-sectoral” on the right side of the continuum. For example, on the “sectoral” side, the options include the strengthening of existing sectoral authorities and use of codes of conduct. In the middle of the continuum are options such as introducing some form of cross-sectoral coordination, for example a regular meeting (or council) of the sectoral authorities, or area-wide environmental review. Existing institutional frameworks such as UNICPOLOS or UN-Oceans might possibly be adapted to play such a role. On the “most cross-sectoral” end of the continuum, options include, for example, expansion of the mandate of the International Seabed Authority (toward a multiple use mandate), establishment of a Stewardship Council to govern areas beyond national jurisdiction, and use of the UN Trusteeship Council (Fig. 1).⁴

The Hanoi workshop then provided an opportunity to assist in the process of collecting relevant information on these options that may contribute information to the second meeting of the United Nations General Assembly Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (New York, 28 April – 2 May 2008). The Hanoi workshop focused discussion on the continuum of coherent policy options from sectoral to cross-sectoral global solutions, and on the next steps needed for developing and applying a set of evaluative criteria to examine each option in the continuum. The outcomes of the Nice and Hanoi workshops were presented to the Ad Hoc Working Group meeting through a statement read and disseminated in print form during the meeting.⁵

The second meeting of the UN Working Group stressed the urgent need to address the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction and noted that some progress had been made since 2006 but that further efforts were needed. It further noted that all issues related to oceans are interrelated and should be addressed in an interdisciplinary, intersectoral and comprehensive manner and that the United Nations Convention on the Law of the Sea sets out the legal framework for all activities in the oceans and seas and is complemented by a number of other conventions and instruments. The essential role of science and the need for further scientific research were noted as was the need for increased capacity-building for developing States. The Co-Chairs of the UN Working Group considered that there was a need for ongoing consideration by the General Assembly of these issues, in particular within the framework of the Working Group. The following could be more particularly considered: effective implementation/enforcement of existing instruments; the strengthening of cooperation and coordination at all levels and across all sectors, including enhanced cooperation in capacity-building for developing countries; development and implementation of effective environmental impact assessments as a tool for improving ocean management; development and use of area-based management tools; practical measures to address the conservation and sustainable use of marine genetic resources in ABNJ; and enhanced marine scientific research in relation to marine biodiversity in ABNJ.⁶

Criteria for Assessing Managing Options

Based on the recommendations from the Nice and Hanoi workshops, the need for a more systematic assessment of management options was addressed in the Singapore workshop. The options should be described

²Cicin-Sain, B., D. VanderZwaag and M. Balgos. Introduction. Integrated National and Regional Ocean Policies: Comparative Practices and Future Prospects (forthcoming in 2009).

³Cicin-Sain, B. and D. Freestone. 2008. Report from the Strategic Planning Workshop on Global Ocean Issues in Marine Areas Beyond National Jurisdiction in the Context of Climate Change, Nice, France, January 23-25, 2008.

⁴Cicin-Sain, B., S. Maqungo, S. Arico, and M. Balgos. 2008. Submission of the Global Forum on Oceans, Coasts, and Islands to the UN Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction New York, 28 April – 2 May 2008.

⁵Ibid.

⁶Joint Statement of the Co-Chairs of the Second Meeting of the UN Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, April 28-May 2, 2008, New York. Available: <http://daccess-ods.un.org/access.nsl/Get?Open&DS=A/63/79&Lang=E>

Figure 1. Continuum of Options for Enhancing Cross-Sectoral Institutional Capacity.

Sectoral ←————→ Cross-Sectoral

**Sectoral Authorities—
Global and Regional**

- Use of codes of conduct
- Enhanced enforcement and compliance
- Improvement of fisheries management organizations (RFMOs)
- Regional experimentation

Some Sectoral Coordination

- Council of sectoral authorities
- Area-based impact assessment, planning and decisionmaking
- Expanded UNICPOLOS
- Expanded UN-OCEANS

**Cross-Sectoral Coordination/
New or Enhanced Institutions**

- Expanded International Seabed Authority
- New Global Programme of Action
- Stewardship Council
- UN Trusteeship Council

in more detail, with the objectives, scope, principles, content and modalities, development, and review and monitoring of each management option clearly presented. This assessment of each option would examine the benefits and consequences (including potential unintended consequences), outline the costs associated with the option, the feasibility and ease of implementation, and effectiveness and efficiency of the option.⁷

Options should be evaluated according to particular criteria, such as: 1) *ecological* (e.g., meets important ocean stewardship objectives; protects the ecological function of oceans, including oceans/climate functioning; protects marine biodiversity); 2) *developmental and managerial* (promotes sustainable development; addresses conflicts and problems among ocean uses; provides a capacity for area-based assessment, planning, and decision-making); 3) *societal* (incorporates equity among nations and between current and future generations); and 4) *procedural/programmatic* (incorporates science-based decision-making; is consistent with existing international law and policy; incorporates public transparency and accountability; is feasible — politically, financially, administratively).⁸

The need for an integrated approach to management of ocean space was emphasized. Similarly, the need for systematic mapping, inventory, and assessment, as well as detailed marine spatial planning,^{9,10} was underscored. It was pointed out that Agenda 21 and the WSSD goals remain insufficient to serve as future policy guidelines on the issue of areas beyond national jurisdiction and that a new, integrated and holistic approach to management of ocean space is needed to secure a legal order on the oceans, promote peaceful use, conserve natural resources, and protect the environment. Such an approach covers both the Exclusive Economic Zones and areas beyond national jurisdiction (ABNJ).

It was pointed out that it is crucial to continue carrying out scientific research and information-sharing to address the dearth of data on oceans, including the development of a marine inventory of areas beyond national jurisdiction. There was also discussion about the usefulness of considering the various management options using a number of questions related to the UNCLOS framework, including: 1) the adequacy of UNCLOS and what would be needed to ensure that any implementing agreement eventually developed to address the conser-

vation and sustainable use of marine biodiversity in areas beyond national jurisdiction be in line with the Convention; 2) whether there is a need for an integrated approach and how can this be achieved consistent with the Convention; 3) whether there is a need for an ecosystem-based approach and how can this be achieved consistent with the Convention; 4) how should cooperation and coordination between the sectorally-based approaches undertaken by national, regional, and global institutions be enhanced; 5) what elements would be necessary to make an implementing agreement to UNCLOS both useful and effective; and 6) what is the meaning of UNCLOS as a “living Constitution” for the oceans.

Other considerations put forward to guide the discussion under this topic included employing the CBD framework (within the limits of its mandate), giving the charge to the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP) to agree to a particular framework, or leaving the UNCLOS States parties to develop a formula.¹¹

Considering the options noted in the continuum, the discussion on the criteria for assessing the management options, and the presentations and papers submitted for the workshop, three groups of options were examined in greater detail: 1) Improvements to Sectoral Processes; 2) Achieving Cross-Sectoral Coordination and Initiating Area-wide Environmental Impact Assessment; and 3) Establishing New Management Institutions or Enhancing Existing Institutions to Govern Marine Areas Beyond National Jurisdiction.

Improvements to Sectoral Processes

The section discusses sectoral activities that contribute to improved governance and better ecosystem outcomes in ABNJ.¹² Fisheries was the only sectoral example discussed in detail in the session, but much of the discussion applies more generally. Discussion

⁷Cicin-Sain. General Perspectives and Criteria for the Assessment of Management Options. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options November 3-5, 2008, Singapore.

⁸Ibid.

⁹Marine spatial planning (MSP) is an ecosystem-based approach to promoting ocean use management. MSP results in a comprehensive marine spatial plan for an area or ecosystem and is usually implemented through zoning maps, regulations, and a permit system.

¹¹Terashima, H. Holistic Approach to Management of Ocean Space. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

¹²Charles, E. Major questions to consider when considering the management options. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

focused on the role of sectoral management, the fit of sectoral activities in cooperative governance models, the need to understand sectoral management contexts in reality, and practical meaning of such terms as “the need for cross-sectoral collaboration.” It was argued that a lack of a shared appreciation among oceans, biodiversity and sectoral communities of interest on often complex sectoral management challenges and developments, and on goals and roles they might play in possible integrated governance has led to confusion among communities that may hinder collaboration and trust among players in the agenda. An inclusive paradigm for sectoral roles in integrated management in ABNJ was put forward as an illustrative and scalable model of “cooperative governance,” aimed at delivering healthier ecosystems, reduced biodiversity loss, and associated economic and social goals.¹³

Robust sectoral management across all key sectors would be needed to support integrated planning processes, and to deliver shared goals through responsible sectoral activities, which, in ABNJ, may be achieved in the shorter term from stronger sectoral management and voluntary collaborative integrated management initiatives. Examples of how fisheries management contributes to integrated ecosystem-based management include: 1) Application of the ecosystem approach to fisheries (EAF); 2) collection of new data and information especially related to ecosystems; 3) development of new science efforts and mapping of both vulnerable marine ecosystems (VMEs) and fishing footprints; 4) protection of VMEs (e.g., use of area and time-based measures, by-catch); 5) strengthened monitoring, surveillance and control; 6) development of new guidelines including most recently for management of deep seas fisheries; 7) new work on port state and flag state control and assessment; and 8) single-stock sustainability contributes to ecosystem health (e.g., protection of trophic relationships).

The broader fisheries reform agenda was discussed. It was noted that tools already

exist for such approaches, although implementation gaps need filling, including knowledge gaps and management capacity building. It was also noted that specifics of the agendas of other sectors also need to be understood. Emphasis was also placed on the need for better collaboration and integration among international institutions, as one aspect of better integrated management, as well as performance review processes.

Not all opportunities for cross-sectoral cooperation and leverage for conservation outcomes (thus contributing to responsible use of ABNJ) need enabling by organized integrated management (answering, in part, a question as to whether “spontaneous” collaboration across sectors is realistic). Examples include cooperation between maritime and fisheries expertise in port state inspections; cooperation between maritime and fisheries interests regarding transshipment; the synergy between domain awareness for security and monitoring, control and surveillance (e.g. regarding IUU fishing); food marketing and education enabling informed, responsible consumption; integrated tracking and traceability that exploits both catch certification and emerging private marketing standards.

Thus, the fisheries example shows that the absence of formal integrated management does not leave the ABNJ landscape devoid of regulation or tools for better management, or modernization of management to improve conservation outcomes. However, it was well recognized that appropriate cooperative and coordinated management approaches would improve outcomes as long as sectors are prepared to play their proper role in such systems.

In general, there is a need to identify and delimit the appropriate ‘entry points’ for more integrated approaches as well as the use of processes to assist this, for example, the IUCN high seas governance principles as a check list or code of conduct for effective action. It was recognized that the prime responsibility for sustainable management of the sectoral resource – e.g., minerals or fish – lies with the sector, while the wider sustainability issues, such as broader effects

on the ecosystem, rests on the legitimate interests of other bodies and processes. By enabling all key sectoral bodies to adopt similar approaches – ecosystem based management, precautionary approach, impact assessments – a common language could be established among sectoral bodies to enable them to cooperate and coordinate effectively, laying a basis for more integrated management where necessary.

Achieving Cross-sectoral Coordination and/or Initiating Area-wide Environmental Impact Assessment

This section builds on the preceding discussion by clarifying that workable tools are available to help achieve cross-sectoral coordination. It was pointed out that oceans beyond national jurisdiction are suffering from increasing environmental impacts now compounded by the effects of climate change. The synergistic effects of these impacts, according to a 2008 UNEP report, “risk an unprecedented, dramatic and widespread collapse of marine ecosystems and fisheries within the next decades.” In order to safeguard ocean health and resilience in a changing climate, it was suggested that governance of oceans in ABNJ needs to reflect a new imperative: maintaining structure, function and biodiversity of ecosystems to enhance resilience to change.¹⁴ The United Nations Conference on Environment and Development (UNCED), it was recalled, emphasized the critical linkage of marine environmental protection to sustainable development.

The importance of ecosystem-based and precautionary management to governance in ABNJ was underscored. Because marine ecosystems do not recognize political boundaries, progress on ecosystem-based management requires global cooperation. Though there may be different kinds of ecosystem approaches with different methods of application, it was put forward that there needs to be some common principles and objectives that are shared by all organizations and sectors. Given the increasing intensity of ocean uses and the impacts of climate change, institutions will also need

¹³Ridgeway, L. Improvements in Sectoral Authorities and Processes. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

¹⁴Currie, D. Achieving Cross-sector Coordination and/or Initiating Area-Wide Environmental Impact Assessment. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

to evolve to respond quickly to new information and uncertainties and to take cumulative and synergistic effects into account. For ocean areas, another challenge lies in integrating the various management approaches into a comprehensive and cohesive plan that has the ecosystem approach as its central framework. There are, however, many lessons that can be learned from experiences in integrated coastal and marine area management that should be further studied.

It was emphasized that global level coordination and integration need not replace regional regulation or State control. Sectoral-based management has its advantages in terms of focused expertise and needs to be strengthened. Sectoral organizations, nevertheless, may be dominated by particular industry interests. To effectively implement the ecosystem approach, there needs to be common principles and objectives as well as a process or mechanism to bring the sectoral and regional organizations and civil society together.

In this regard, some important ideas were offered as to how to move towards practical implementation of EBM in the deep sea/high seas including:

- Further exploration of marine spatial planning as a practical tool for implementing the ecosystem approach. To do this there is a need to improve understanding of the human dimension of ABNJ, including the use of ocean space, intensity, spatial and temporal extent, and impacts through, e.g., information systems that integrate spatially referenced environmental data, stakeholder uses, and jurisdictional boundaries. There is also a need to anticipate the role of new and expanding uses of oceans.
- Selection of pilot sites for development of a management plan based on the ecosystem approach. The Global Environment Facility (GEF) has already funded four cases involving ABNJ and the subject has been eligible for financing for a number of years; however, only very few requests have been re-

ceived. The GEF should be encouraged to continue funding such initiatives, for example, a program is needed in order for the GEF to experiment with a number of other ways of addressing ABNJ ecosystems, especially seamounts.¹⁵

It was pointed out that area-wide environmental impact assessments have an extensive basis in both hard and soft law and are already being applied at the regional, national and global levels.¹⁶ In addition to provisions in UNCLOS, the CBD, the London Convention, the Madrid Protocols to the Antarctic Treaty and many regional seas agreements, there have also been calls for EIAs in Agenda 21, the JPOI of WSSD and UNGA resolution 61/105 with respect to high seas bottom fishing. There is a treaty specifically on environmental impact assessments in a transboundary context (the Espoo Convention), but it focuses solely on impacts on neighboring States. It does, however, provide a useful model for capacity building amongst participating States.

Many RFMOs and States are now grappling with the requirement to conduct individual assessments of high seas bottom fishing as called for by an UNGA resolution, which also requires RFMOs and States to manage high seas bottom fishing to prevent significant adverse impacts, or not to allow it to proceed. Implementation of the impact assessment process required under UNGA 61/105 has been uneven to date, underscoring the importance of a global review process to spur performance improvements.

In May 2008, the Parties to the CBD adopted a decision calling for the creation of scientific and technical guidance for EIAs and Strategic Environmental Assessments that can build on experience at the national, regional and sectoral level. In October 2008, the IUCN World Conservation Congress adopted a motion building on the requirements in UNCLOS and the CBD, as well as the conditions set forth in UNGA res. 61/105. The World Conservation Congress motion 43 urges Member States of the United Nations General Assembly to adopt a resolution calling on States to:

- a) Develop assessment processes, including the assessment of cumulative impacts, of human activities with a potential for significant adverse impacts on the marine environment, living marine resources and biodiversity in areas beyond national jurisdiction; and
- b) Ensure that assessed activities with the potential for such significant adverse impacts are subject to prior authorization by States responsible for nationals and vessels engaged in those activities, consistent with international law, and that such activities are managed to prevent such impacts, or not authorized to proceed.

Some ideas were also put forward for initiating area-wide EIA including:

- Actively supporting the development of scientific and technical guidance for EIAs and SEAs by the CBD;
- Developing and implementing assessment procedures at State level for vessels as well as nationals;
- Providing financial assistance to developing countries to develop procedures to implement EIAs for ABNJ (e.g. in role as flag states);
- To implement the precautionary approach, placing the burden of proof on those who propose a specific activity to show that it will not cause significant adverse impacts and that management measures are in place to prevent such impacts. Responsible parties should be liable for environmental harm;
- To ensure that EIAs are more than just a sectoral instrument, ensuring the assessment process allows for consideration of cumulative impacts;
- Prior assessment and regulation under conservation and management measures to prevent significant adverse impacts should become the sine qua non for fishing or other activities on the high seas. Bottom fishing and ocean fertilization are already moving in that direction.

In order to enhance cross-sectoral coordination and cooperation and improve

¹⁵Vierros, M. Towards the application of the ecosystem approach in the deep and open ocean: Cross-sectoral perspectives. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

¹⁶Gjerde, K. Achieving Cross-Sectoral Coordination and/or Initiating Area-wide Environmental Impact Assessment. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

institutional performance, discussions were held on the following options:

- a) Make the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP) a central coordinating body. ICP is a global forum that provides broad participation and thus provides a good starting point. If it does not improve coordination, it could also reconsider the need for a more elaborate arrangement, such as a new institution.
- b) Allocate one or two days of the ICP to the consideration of the ecosystem approach and integrated activities in the world ocean. All existing global and regional organizations could be invited to present their views, issues, and concerns after which these organizations would go back to governing bodies to discuss responses. The allocated days would be in addition to, not instead of, focused discussions at the ICP on specific topics.
- c) Enhance coordination and cooperation through direct mechanisms such as mutual participation by regional seas and regional fisheries organizations in each other's meetings and the development of memoranda of understanding with and between regional and global conservation and sectoral organizations.
- d) Strengthen regional seas organizations/arrangements and extend their coverage and mandate into areas beyond national jurisdiction, where they do not already apply, and, where necessary, establish new ones.
- e) Establish a common set of principles and objectives to provide an appropriate environment for cooperation. The mandates of sectoral organizations may need to be broadened to incorporate common environmental principles and objectives. Incentives and funding can also help.

- f) Provide for some form of global level review of regional and sectoral organizations to identify progress and problems as well as to ensure accountability.

While the global policy-setting role of the General Assembly was recognized, the complementary work of the CBD on scientific and technical issues, including in relation to area-based management and impact assessments was also highlighted. Furthermore, a case study from Vietnam featured an institutional framework of cross-coordination which reflected the complexities of achieving integrated and harmonized national-level management of seas and islands.¹⁷

Establishing New Management Institutions or Enhancing Existing Institutions to Govern Marine Areas Beyond National Jurisdiction

With regard to the "most cross-sectoral" end of the institutional capacity continuum (Figure 1), there was no opportunity at the Singapore meeting to discuss in detail options such as expanding the mandate of the International Seabed Authority, creating a new Global Programme of Action, establishing a Stewardship Council, or using the UN Trusteeship Council. Discussion of these options was deferred for future meetings to be organized by the Global Forum. Nevertheless, analysis of some of these options was contained in some of the workshop materials put together for the Singapore workshop.¹⁸

There was discussion, instead, of the possible value of creating an implementing agreement to UNCLOS addressing major issues in the management of marine areas beyond national jurisdiction.

At the second meeting of the UN Ad Hoc Working Group in 2008, delegations generally recognized that there were implementation gaps in the international

legal framework and emphasized the need for full and effective implementation of existing instruments, including available principles and tools, and for the strengthening of existing institutions and arrangements and enhanced cooperation and coordination. Delegations were divided as to whether an elaborated regime was needed within the framework of UNCLOS in relation to marine genetic resources or more generally to marine biodiversity conservation in areas beyond national jurisdiction. Delegations who hold the view that a new international regime was not needed for marine genetic resources noted that any such regime might hinder scientific research and innovation and would be difficult to monitor and enforce. Several country delegations highlighted the need for further consideration of intellectual property rights relating to marine genetic resources beyond areas of national jurisdiction.¹⁹

Greenpeace has put forward a draft implementation agreement to elicit what elements are needed and what text could be drawn upon, and to show that an implementing agreement for the conservation and management articles of UNCLOS is achievable. The agreement is to be established to coordinate and oversee ABNJ and high seas issues and address the major gaps, and will comprise an intergovernmental process and a broader involvement of stakeholders including the private sector.^{20,21} Such an agreement, which should be founded upon previously established ocean principles, needs to involve regional and sub-regional organizations.

The draft agreement builds on the UN Fish Stocks Agreement, which categorically includes fisheries within the scope of the agreement, reflecting a current perception that fisheries are among the primary causes of damage to biodiversity in areas beyond national jurisdiction. The elements of the

¹⁷Nguyen Chu Hoi. Case study presented on the Vietnamese perspective on integrated management of coasts and oceans, including the high seas. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

¹⁸Warner, R. Options to Strengthen the Environmental Regulation of Marine Genetic Resource Exploitation in Areas beyond National Jurisdiction. Paper prepared for the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

¹⁹Joint Statement of the Co-Chairs of the Second Meeting of the UN Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, April 28-May 2, 2008, New York. Available: <http://daccess-ods.un.org/access.nsf/Get?Open&DS=A/63/79&Lang=E>

²⁰Currie, D. The draft Greenpeace Implementing Agreement. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

²¹Greenpeace. Suggested Draft High Seas Implementing Agreement for the Conservation and Management of the Marine Environment. Available: <http://www.greenpeace.org/raw/content/international/press/reports/suggested-draft-high-seas-impl.pdf>

text provide a model implementing agreement for the conservation and management articles of UNCLOS with respect to biodiversity on the high seas. The authors noted that, where possible, the provisions of the draft agreement, referenced throughout, were taken or adapted from current regional and international treaties and instruments. The text was provided by way of suggestion and is subject to correction and clarification as needed.²²

Concerns were expressed that a new implementing agreement should address the systemic issues associated with the governance of ABNJ, as well as enable area-based conservation. Existing area-based management initiatives such as the SPAMI (Specially Protected Areas of the Mediterranean Interest) and the establishment of the Pelagos Sanctuary are good examples of how ABNJ issues can be addressed within the context of existing regional processes and could serve as models for global processes.

It was concluded that there is a need to make much better use of existing instruments and frameworks, although new instruments could be developed as appropriate.

2. Management of Marine Genetic Resources: Identifying Opportunities, Intellectual Property Issues, Options for Access and Benefit Sharing, and Governance Gaps

Identifying Opportunities, Intellectual Property Issues, Enhancing Understanding of Values and Processes

At present, there is limited detailed information about marine genetic resources (MGRs), including in marine areas beyond national jurisdiction, to inform the policy debate. This includes the type of MGRs being collected, the location of MGR collection, the potential and actual values of MGRs, the use of the collected MGRs, e.g.

commercial application, the types of products developed and marketed by MGRs, and the types of benefit-sharing agreements (if any) that have been developed. The United Nations University–Institute of Advanced Studies has developed an online database tool, Marine Bioprospector, to provide information about bioprospecting activities in Antarctica, the Pacific Island countries, marine areas, and the Arctic.²³ Information on deep seabed genetic resources remains difficult to find due to its commercially sensitive nature, although several biotechnology companies are involved in the patenting of deep sea genetic resources, product development and collaboration with research institutions.

The existing legal instruments that apply to marine genetic resources governance include the UN Convention on the Law of the Sea (UNCLOS) and the Convention on Biological Diversity (CBD), as well as other conventions that may inform the discussion. Relevant provisions of UNCLOS include Parts VII on the high seas, Part XI on the Area, Part XIII, which addresses marine scientific research, and Part XIV, which addresses technology transfer. Under Part XIII, marine scientific research activities shall not cause unjustifiable interference with other legitimate uses of the sea (Article 240), and shall not constitute the legal basis for any claim to any part of the marine environment or its resources (Article 241). States and competent international organizations are required to ‘make available by publication and dissemination through appropriate channels. . . knowledge resulting from [MSR]’ and ‘actively promote the flow of scientific data and information and the transfer of knowledge resulting from [MSR], especially to developing States’ (Article 244). States have the right to carry out marine scientific research in the water column beyond the 200nm Exclusive Economic Zone and in the Area. Marine scientific research undertaken in the Area is to be carried out exclusively for peaceful pur-

poses and for the benefit of mankind as a whole. It is important to note that whether or not “bio-prospecting” is an activity which falls under the definition of marine scientific research and thus falls under the provisions of Part XIII, or is governed by the Convention’s regime of exploitation of resources beyond national jurisdiction, remains an issue with divergent viewpoints.²⁴

Intellectual property law can be examined for its relevance in marine genetic resources discovered in areas beyond national jurisdiction. Agreements include the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)–Budapest Treaty (contains rules on patent criteria, disclosure of the invention, and patent owners), the Madrid system (agreement and protocol on trademarks/downstream intellectual property), and the Paris Convention and Lisbon Agreement (geographical indicators). A proposed amendment to TRIPS Article 29 would require that patent applicants disclose the origin of genetic resources used in their inventions, evidence that they received “prior informed consent,” evidence of “fair and equitable” benefit sharing, and consequences for non-disclosure.²⁵ Issues to consider with this amendment include the definition of “biological resources” and whether this includes “genetic resources;” the scope and extent of disclosure (e.g. mandatory or optional, country of origin, etc.); the effect of non-compliance and the consequences on patent applications/granted patents/ acquired intellectual property rights, for example sanctions or revocation of patents.²⁶

Under Article 311, UNCLOS “shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.” In the present context, what this provision means, in substance, is that UNCLOS and interna-

²²Ibid.

²³Vierros, M. Status of Marine Biological Prospecting. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

²⁴Salpin, C. Marine Genetic Resources: The Law of the Sea and Intellectual Property Law. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore. The views expressed in that presentation do not necessarily reflect the views of the United Nations.

²⁵Ibid.

²⁶Sim, A. Implications of Decisions on Access & Benefit Sharing of Genetic Resources on the International Intellectual Property System. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore

tional instruments related to IP law are compatible, insofar as compliance with the latter instruments does not alter the exercise by a State of its rights and performance of its obligations under UNCLOS.²⁷

There is a considerable nexus between the objectives of UNCLOS and intellectual property law. Despite this nexus, questions of compatibility between the two areas of law arise. Questions raised include:

- Is patenting a claim to the marine environment and its resources?
- Is the degree of confidentiality required prior to filing for patents in order to safeguard the novel character of an invention compatible with the requirement for dissemination and publication of data and research results?

As discussed in the Workshop, patenting does not constitute a claim of ownership to the marine environment or its resources, but instead a claim to the exclusive use of such resources for a limited period of time. The issue of dissemination and research is largely an issue of implementation and there are avenues within the patent system itself to ensure an implementation that is consistent with the relevant provisions of UNCLOS. The need for studies on how patent law instruments have been implemented in relation to marine genetic resources from areas beyond national jurisdiction was highlighted. It was also proposed that the possibility of using other types of intellectual property, such as trademarks and geographical indications downstream patenting and open source licensing, be further studied and considered.

Relevant Experiences with and Options for Access and Benefit-Sharing

The current policy framework for access and benefit sharing (ABS) is represented by the related regime being negotiated under the Convention of Biological Diversity (CBD), while the Law of the Sea (UNCLOS) does not contain regulatory measures for ABS for deep seabed genetic resources.

Any new approach to access and benefit sharing frameworks for marine genetic resources beyond national jurisdiction must take into account ecological, climatic, and transboundary issues. Moreover, proximate States should be involved in the design and implementation of any ABS framework, with a focus on joint management, research cooperation, and royalty sharing.²⁸

Lessons-learned from the CBD include acknowledgement that monetary flows are never guaranteed from access to genetic resources. Shorter term in-kind benefits are valuable and should be sought. The international community could usefully focus on defining what UNCLOS means by MSR in the Area being undertaken for the “benefit of (hu)mankind as a whole.” In addition to in-kind benefits outlined in Part XIII, emphasis could be placed not only on physical access to the samples and materials, but access to associated genomic, proteomic and metagenomic information in publically accessible databases.²⁹

An issue to explore is the extent to which the international community already has access to biological samples and associated databases. A related issue is determining current practice of the MSR community to place information in the public domain (e.g. InterRidge). Possible obstacles to sharing samples and information include the nature of scientific research today: scientific competition and the associated need to publish, transaction costs to providing information and materials to others, commercial interests for confidentiality and intellectual property rights. Governance mechanisms to ensure sharing include community best practice, etiquette and peer pressure, funding agency (public or private) conditionalities, governmental policies and law and international organizations working to harmonize practices across countries (e.g. UNESCO/IOC). Lessons can be learned and principles adapted from other scientific sectors such as the fields of genomics and proteomics in relation to public health (e.g., Human Genome Project (HGP)). Policy

developments post-HGP have been premised on the following overarching principles: (1) Fostering free exchange of data, information and materials and (2) Fostering responsible patenting and licensing strategies that support further basic research.

Existing efforts, regimes and conventions may be used as reference points in the development of an access and benefit sharing framework for areas beyond national jurisdiction. These include the FAO Global Strategy for the Management of Farmed Animal Resources, the OSPAR Convention, the Nouméa Convention, the Mediterranean Action Plan, and the Intergovernmental Oceanographic Commission. An ideal package of tools for ABS would involve codes of conduct and databases, as well as compilation of and lessons derived from best practices with ABS. Any international access and benefit sharing arrangements should not adversely impact efficiency and integrity of the intellectual property system.

Some countries have been experimenting with various approaches to access and benefit sharing related to marine genetic resources. For example, the Seychelles has participated in some ad hoc bio-prospecting in collaboration with external partners, including the Venter Global Sea Collection project. A number of patents based on samples collected in the Seychelles have been filed, on which the Government and people of the Seychelles have no say. A second example is the joint project between the University of the Philippines Marine Science Institute (UP-MSI) and the University of Utah (Pharma Seas Drug Discovery Program), which was a cross-departmental collaboration. The UP-MSI has a six-year program with aims to develop marine genetic resources, including anti-infective agents from sponge-associated marine microorganisms (for TB, *S. aureus* infections, possibly HIV) and anti-pain agents from turrid snails. Although this is a local effort, the knowledge gained by UP-MSI can be applied to policy formulation related to

²⁷Salpin, C. Marine Genetic Resources: The Law of the Sea and Intellectual Property Law. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

²⁸Payet, R. Access and Benefit Sharing of Genetic Resources in Seychelles. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

²⁹Glowka, L. Some Considerations on Marine Genetic Resources Beyond the Limits of Any National Jurisdiction. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

marine genetic resources. The UP-MSI projects, and generally other local research initiatives in the Philippines, also demonstrate a willingness of the country to be involved and trained in international ocean and MGR research, it also is an example of capacity building especially in weak areas, e.g. taxonomic and population genetics research.³⁰

Addressing Governance Gaps

A range of options exist for addressing the governance gaps related to the management of marine areas beyond national jurisdiction and marine genetic resources, from broad governance options in which MGR issues could be tied to regional approaches to specific arrangements for just MGRs. The current legal and institutional regime for marine areas beyond national jurisdiction is fragmented and incomplete, resulting in limited effectiveness in securing sustainable conservation and use of marine areas beyond national jurisdiction, its resources and biodiversity. Effective protection of these areas will require a more integrated governance structure.

The central challenge for governance of areas beyond national jurisdiction stems from the nature of this area as an open access area with equal rights of users and exclusive Flag State jurisdiction. The freedom of the high seas leads inexorably to the tragedy of the commons and Flag State jurisdiction is ineffective in halting this tragedy.

In view of the limitations in the current ABNJ regime, it is arguable that the time has come for an integrated and comprehensive regulation of all uses and activities in the common interest of all States. It may be possible to devise a regime which straddles the divide between the open access and common heritage of mankind principles in a way which protects the common interests in resources and the common concern of humanity for the protection and preservation of the marine environment.

Common ground might be found in the concept of areas beyond national jurisdiction as a public trust to be used for and managed in the interests of present and fu-

ture generations. Under this public trust, open access to ABNJ resources would continue but those who exercise that access must do so subject to rules for sustainable management adopted by regional seas stewards. Users would also potentially make a contribution based on a small percentage of their profits derived from ABNJ resource exploitation to a global oceans trust or its regional seas delegates for ongoing protection and preservation of the marine environment.

An analysis of the geographical and regulatory coverage of Regional Fisheries Management Organizations and Arrangements (RFMO/As) and Regional Seas Conventions revealed large geographical gaps exist in the coverage of regional instruments. Where such instruments exist, they provide an opportunity to continue moving forward in the short-term with the application of modern management and conservation measures. More extensive reliance on regional instruments would require expanding their coverage and/or establishing new Regional Seas agreements or RFMO/As. Coordination among regional instruments is challenging, making coherent global action using regional measures more difficult.

Participants concluded that measures at both global and regional levels will be needed to move toward ecosystem-based management of marine areas beyond national jurisdiction.

3. Encouraging Experimentation on Ecosystem-Based Management in Areas Beyond National Jurisdiction in Regional Cases through Global Environment Facility Support

In recognition of the fact that developing global rules to enhance ecosystem-based management of areas beyond national jurisdiction and to improve existing sectoral processes will take considerable time, participants underscored the importance of encouraging experimentation at the regional level of ecosystem-based approaches to manage particular areas which may encompass national jurisdiction, large marine ecosystems shared by various coun-

tries, as well as areas beyond national jurisdiction. Such experimentation in regional areas could entail, for example: Applying particular ocean governing principles to the regional area; assessing the status of marine biodiversity; determining patterns of human use; identifying conflicts among uses and between users and the environment, including biodiversity; employing Environmental Impact Assessment; establishing marine protected areas in certain areas in need of special protection; study and inventory of the marine genetic resources of the regional area; establishment of appropriate access and benefit-sharing arrangements to exploit the marine genetic resources of the regional area; establishing appropriate compliance and enforcement mechanisms.

Participants underscored the benefits that such regional experimentation could bring to global debates over improved governance of marine areas beyond national jurisdiction, for example, practical demonstration of which approaches may work well and which may not; understanding of how existing sectoral processes might be better coordinated and enhanced to achieve cross-sectoral integrated management; practical learning of how the marine genetic resources might be identified, inventoried, and benefit-sharing established; legal and policy issues that might arise in the application of area-wide Environmental Impact Assessment, development of a management plan, and establishment of marine protected areas; problems that may arise in coordinating the actions of multiple sectoral agencies regarding joint monitoring and compliance.

Participants urged the Global Environment Facility to consider providing financial support for such experiments to test the feasibility of applying ecosystem-based management to regional areas which may include areas of national jurisdiction, large marine ecosystems shared by various countries, and areas beyond national jurisdiction. In selecting such regional cases, the GEF might consider such factors as the following: Areas of special significance for restoring and sustaining coastal and marine fish stocks and associated bio-

³⁰Eguia, M.R. Perspectives on the Role of Developing States in the Sustainable Use and Management of MGRs in Global Oceans. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

logical diversity as well as areas particularly affected by climate change; areas of special interest to developing countries for their sustainable development, including exploitation of fisheries and marine genetic resources; areas in which national authorities have collaborated cross-nationally through Large Marine Ecosystem Programs³¹ and where the areas of high seas directly affect ecosystem health and function within the LMEs; areas in which national and regional authorities have a demonstrable interest in such experimentation and have the capacity to learn from the experimentation and to draw lessons for scaling up and for application in other regional areas. It was noted that the Global Forum on Oceans, Coasts, and Islands is well suited to playing a technical assistance role in these efforts by linking the regional experiments with each other and with global discussions of approaches, tools, and methods that might be applied and of possible legal and policy implications, and by drawing the attention of UN-level global discussions on areas beyond national jurisdiction of the results and lessons learned from the regional experiments.

The Global Environment Facility is the major international financial mechanism supporting developing country action under global environmental treaties (United Nations Convention to Combat Desertification, Convention on Biological Diversity, United Nations Framework Convention on Climate Change, and Stockholm Convention on Persistent Organic Pollutants). Since 1991, the GEF has supported action by 177 member countries through what is now a \$3 billion trust fund. The GEF International Waters program, which responds explicitly to Chapters 17 and 18 of Agenda 21, addresses area-based management of transboundary, multi-country water systems, including coasts, oceans and adjacent basins, transboundary surface water basins, and groundwater basins. In the period 1992-2008, the GEF International Waters

Portfolio supported 165 GEF Council-approved projects involving 147 recipient countries and 22 industrialized countries with \$1.13 billion in GEF grants and \$4.68 billion in co-financing.³² A major part of the International Waters Portfolio has been the funding of 17 Large Marine Ecosystems involving 126 collaborating developing countries. In addition to the GEF International Waters Portfolio, two other relevant GEF focal areas—the GEF Biodiversity Focal Area and the Climate Change Focal area—are of relevance to areas beyond national jurisdiction as well.

Workshop participants encouraged the development of a new GEF program on marine areas beyond national jurisdiction, which could be included under the next funding period, GEF 5 (2010-2014). The GEF replenishment process for its next phase of activities³³ has just started and is expected to be completed by December 2009.

Workshop participants discussed a number of regional cases where fruitful experimentation on applying ecosystem-based approaches to regional areas combining national jurisdiction, large marine ecosystems, and areas beyond national jurisdiction could take place, as noted below.

GEF/UNDP Agulhas and Somali Current Large Marine Ecosystems Project

The GEF/UNDP Agulhas and Somali Current Large Marine Ecosystems Project aims to formulate, adopt, and implement effective and sustainable Strategic Action Programmes for the two LMES by looking at their: 1) Productivity; 2) Fish and Fisheries; 3) Ecosystem Health and Pollution; 4) Socioeconomics; and 5) Governance. Work on the first three areas will provide the scientific foundation and justification upon which to confirm the extent and boundaries of the ecosystems (as well as identifying the processes which define those ecosystems). The last two areas will provide

an understanding of the governance needs in terms of national and regional institutional structures, human resources, political agreements, fiscal demands, etc.³⁴ Ocean/climate processes in areas beyond national jurisdiction which significantly affect the LMEs could be effectively managed through an ecosystem approach in collaboration with the many regional organizations in the region. Discussion also centered around the possibility of coordinating with the Republic of Mauritius and the Republic of Seychelles regarding the continental shelf area lying beyond 200 nautical miles in the region of the Mascarene Plateau in respect of which Mauritius and the Seychelles made a submission to the Commission on the Limits of the Continental Shelf.

OSPAR Region

The OSPAR Commission is considering the inclusion of areas of the OSPAR maritime area beyond the limits of jurisdiction of coastal states as components of the OSPAR network of Marine Protected Areas (MPAs). WWF, Portugal and the Netherlands have proposed a section of the Mid-Atlantic Ridge/Charlie Gibbs Fracture Zone as an OSPAR area of interest for establishing an MPA, located beyond the limits of national jurisdiction of the coastal states in the OSPAR maritime area and Canada. The site proposed is also outside the potential Extended Continental Shelf of Iceland and Greenland (according to Part IV, Art. 76 of UNCLOS). A roadmap for further work on the establishment of this MPA is defined for 2008- 2009 setting out a critical path of considerations and steps to be taken with a view to considering for possible adoption of MPAs in ABNJ at the OSPAR Ministerial Meeting in 2010, including liaising with other competent authorities, scientists and other stakeholders.³⁵

Coral Triangle/French Polynesia

The Coral Triangle, sometimes referred to as the “Amazon of the Seas,” is the epicen-

³¹Large Marine Ecosystems provide a framework for ecosystem-based approaches to management adopted by the GEF in 1995 as an operational strategy for addressing transboundary concerns (Duda 2008, this report).

³²Duda, A. GEF International Waters Focal Area and other GEF Opportunities for Addressing Areas Beyond National Jurisdictions. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

³³The GEF replenishment is the process by which donor countries contribute money to the GEF Trust Fund at four-yearly intervals. See GEF Structure and Organization. Available: http://www.gefcountry-support.org/report_detail.cfm?projectId=140

³⁴Vousden, D. and M. Ngoile. Presentation given during the Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options, November 3-5, 2008, Singapore.

³⁵Johnson, D. Update on OSPAR activities regarding the governance of marine areas beyond national jurisdiction to the Global Forum, October 2008.

ter of marine life abundance and biodiversity on the planet, holding more than 75% of the known coral species and over 3,000 species of reef fish. This regional case could involve the development of networks of marine protected areas in the large marine ecosystem stretching from the Solomon Islands to French Polynesia and the development of rules and guidance for exploitation of marine genetic resources through regional collaboration among the Pacific Island Nations, France, and the major regional organizations in the South Pacific — the Pacific Islands Forum, Forum Fisheries Agency, SPREP, SOPAC, the Secretariat of the Pacific Community. The Coral Triangle Initiative (CTI) has received funding and support from the GEF, national governments, the Asian Development Bank, and partner NGOs – World Wildlife Fund, The Nature Conservancy and Conservation International.

The Arctic

As the sea ice melts in the Arctic, there is a concern about the need to manage this region, especially the areas beyond national jurisdiction, through an ecosystem approach, to insure that forthcoming development—involving, among others, offshore oil and gas, new shipping routes, and greater population concentration, is carried out with due care for this vulnerable region.

4. Participant Break-out Session Outcomes

Two break-out sessions covered the following themes: 1) Building enhanced understanding of values and processes in marine genetic resources; 2) Options for benefit-sharing of marine genetic resources; and 3) Addressing governance gaps in areas beyond national jurisdiction. The first group concentrated on clarifying the issues and demystifying some of the language and concepts related to marine genetic resources. The second group developed a series of options and recommendations for improvement of governance of marine areas beyond national jurisdiction, both for the short, medium, and long-term, with a special emphasis on marine genetic resources.

Group 1: Building Enhanced Understanding of Values and Processes and Options for Benefit-Sharing Regarding Marine Genetic Resources

Participants noted that a pre-condition for progress was the need for a realistic assessment of ocean assets and the demystification of the issue of the potential profitability of activities related to MGRs from ABNJ. A great deal of information is available on the commercialization of products derived from MGRs, but a number of participants did not think the information currently available was sufficient for informed decision-making by states. In line with a precautionary approach, some participants considered that, in any case, the lack of information should not prevent states as well as the international community from taking action.

The need to move beyond discussions on ownership of the resources was highlighted, as was the need to separate the issue of access to MGRs from that of benefit-sharing. It was noted that there is no international consensus on whether there should be benefit-sharing with regard to marine genetic resources from ABNJ.

The UNCLOS objective of equitable and efficient utilization of ocean resources was the starting point and framework for any benefit-sharing discussion. There was agreement that before considering modalities for benefit-sharing, it was necessary to first identify the types of benefits to be shared, financial and in-kind, as well as direct and indirect, in particular since different benefits may call for different sharing regimes. Benefits include, for example, ecosystem services, goods, access to new drugs, information exchange, sharing of experience, education, capacity building, transfer of technology, partnerships, etc. The range of benefits outlined in the Bonn Guidelines on Access and Benefit Sharing could provide a useful reference point.

Participants stressed that the ability to benefit from the resources should be accompanied by an obligation to share the cost of protecting those resources. The benefits should be generated through sustainable activities from the environmen-

tal, social, economic and cultural standpoints. A proposal was made to develop an ethics charter on ocean uses. Codes of conduct could include access and benefit sharing provisions. Vital was the need to ensure that marine scientific research was not hampered by stringent access and benefit-sharing measures. Adequate incentives are also needed to ensure the continuation of marine research.

At the national level, possible access options included the use of concessions, licensing, and user fees, although caution was expressed about the use of access fees. Certainly, learning from experiences and mechanisms developed in other fora for addressing ABS would be useful, bearing in mind that such experiences may not always be applicable to marine resources in ABNJ. The view was expressed that the ABS provisions of the CBD were unlikely to work for marine genetic resources from ABNJ. But important lessons could be learned from experiences at the national and local levels, including the possible development of model contracts for ABS. Different views were expressed on whether new mechanisms or institutions were necessary to manage ABS. The need to ensure buy-in from all players and stakeholders, in particular markets and the public, was highlighted, as was the need for input from different agencies, international organizations, investors, and donors.

The session identified a number of activities that could be undertaken in relation to identifying opportunities, understanding values and processes, as well as options for access and benefit-sharing. The group considered that those activities should not be prioritized but, instead, could be undertaken simultaneously on parallel tracks; hence they did not separate them in short or long-term measures.

The following ideas were proposed:

Start at micro-level (local, national) and scale up to the macro-level (regional, ABNJ):

- Develop ABS systems for MGR at the national level
- Consider the development of regional ABS plans

- Undertake pilot projects to develop ABS systems; including using LMEs (exploring the possibility for GEF funding for such pilots)

Clarification of what benefits are

International discussions would benefit from a process that clarifies what the realistic potential benefits from MGRs actually are. These common elements could then be fed into the formal processes at the UN (United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea, UN Ad Hoc Working Group).

Research: Undertake further studies and compile information on the following

- Details of successful public/private partnerships for ABS
- Existing commercial uses of MGRs
- The relationship between the ABS procedure under CBD and the MSR consent regime under UNCLOS
- Intellectual property rights over MGRs, in particular their implementation to date
- Developing/learning from existing tools for ABS measures (including national laws and model commercial contracts) and disseminating them

Education

- Publish the panel presentations of ICP-8 (modeled on “Ecosystems and Oceans” publication, prepared following ICP-7)
- Target various audiences (governments, public, media, industry, scientific community, etc.), with governments as priority targets
- Develop accessible policy briefs on the issue for national governments and civil society

Developing an ethical approach for researchers and industry

- Corporate Social Responsibility norms should encompass ethical exploitation of MGRs
- Codes of Conduct for scientists and industry

- A Global Statement on Basic Principles (perhaps feeding into codes)
- Adopt a precautionary approach

Institutional arrangements

- Convene an Expert Panel to develop guidelines on the exploitation of MGRs (not country-based, not UN-based), with a clear, focused mandate: to be held possibly on the margins of the UN Ad Hoc Working Group, the World Oceans Conference (May 2009), or the Global Forum on Oceans, Coasts, and Islands Conference (April 2010). At a later stage consider whether there should be a continuous process to address these issues.

Group 2: Addressing Governance Gaps in Areas Beyond National Jurisdiction with Special Emphasis on Marine Genetic Resources

The group started by seeking a shared understanding of governance. In its simplest and most direct form, it could be seen as the devising and execution of policy. Accordingly, governance could be seen on a pragmatic basis as a set of tools and/or mechanisms used to achieve a desired outcome. These can include laws, policies, institutions and procedures that provide the basis for implementation, co-ordination, reporting and compliance. Governance has several dimensions, including considerations related to scale (national, regional, and international), time and geographic space, as well as coordination amongst institutions to achieve coherence and making available scientific knowledge relevant for decision-making. Governance needs to enable implementation. Achievement of the desired outcome through governance critically relies on setting the context for stakeholder buy-in and participation.

For working purposes, a distinction can usefully be made between governance gaps—a need for new governing mechanisms, and implementation gaps – whether the implementation of existing governance mechanisms needs to be improved. It was stressed that key was to consider and address implementation gaps as a first step to identifying why desired outcomes have not been reached. In doing this, it is important

to consider why the gap is there and design actions accordingly. Capacity building is also important in this regard.

UNCLOS, problematically, provides no operational coordinating mechanism (except the UNGA) through which the international community can set common standards across various regional and sectoral governing bodies. As a result, new instruments (e.g. binding or non-binding international agreements, agreed principles, codes of conduct) and existing processes (e.g. UN Ad Hoc Working Group, UNICPOLOS), perhaps with expanded mandates, are needed to provide a basis for coordinating existing mechanisms and addressing new and emerging issues in marine areas beyond the limits of national jurisdiction. Any new instruments should incorporate modern provisions for compliance including reporting, performance criteria and review, as well as measures for noncompliance. It was also noted that governance mechanisms exist in regional seas for collaboration between coastal states on managing proximate areas beyond their EEZs where ecosystems extend into these areas, but seldom extend into open ocean waters.

The group developed the following recommendations for addressing governance gaps in marine areas beyond the limits of national jurisdiction in the short and medium to long-term. These actions are particularly relevant to marine genetic resources, though they also have wider resonance.

Short-term

1. As a priority, identify or establish a permanent forum/focal point on ABNJ issues. This could be done by a number of means:
 - Renew and expand mandate of UN Ad Hoc Working Group
 - Consider an expanded role for UNICPOLOS in particular regarding coordination
 - Adopt a UNGA Enabling Resolution on means to identify and address implementation/regulatory gaps in UNCLOS Part VII, XI, XII, XIII and XIV (e.g., seeking clarification of the ISA mandate in terms of marine scientific research)

- Use mechanisms that are not formal, such as the Global Forum, to stimulate discussion
 - UN Secretary General designates a high-level liaison to facilitate the process - including MGRs
2. Accelerate the implementation of existing commitments, both normative and institutional. This could, inter alia, be through the development of governing principles or other mechanisms in particular to assess and enhance performance
 3. Increase scientific research, knowledge, capacity, and collaboration, as well as access to and utilization of scientific information (initially using existing mechanisms)
 - Incorporate marine biodiversity into the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) process if it goes forward
 - Develop guidelines or codes of conduct on information sharing
 - Start the work to identify ecologically and biologically important areas in ABNJ
 - Develop demonstration programmes or projects on marine spatial planning and other area-based management
 - Enhance institutional cooperation among UN Bodies
 - Incorporate climate change and its effects on ABNJ into broader discussions
 - Look at questions that might be asked from the Global Marine Assessment and draft agenda for future development (best tool for science into policy debate)
 - Develop guidance on environmental impact assessment (EIA) in ABNJ
 - Use this guidance to address activities conducted by flag states as well as other states through their nationals
 4. Create a stakeholder process for implementing environmental impact assessments and marine spatial planning in ABNJ
 5. Identify Principles for High Seas Governance
 - Agree on Principles and roadmap for their implementation

- Use performance review of RFMOs to apply lessons learned into other processes. Work towards creating global review for other activities using common principles. Create linkages among RFMOs
6. Improve management of MGRs within national jurisdiction
 7. Encourage stronger coordination among UN agencies
 8. Invite the GEF to expand its work in the high seas with a dedicated program with funding from its International Waters and its Biodiversity areas for its next budget cycle

Medium and long-term

The following activities will help fulfill the WSSD goals relating to ecosystem-based management in areas beyond national jurisdiction:

1. Norms
 - Move towards institutionalization of agreed Principles of High Sea Governance
2. Institutions
 - Establish a Special Working Group or Committee on MGRs in ABNJ
 - Develop a new instrument(s), such as an Implementing Agreement
 - Create a “New” Agenda 21 or joint plan of implementation for ABNJs
 - Create IPCC for oceans (if this need is not met by the proposed Intergovernmental Platform on Biodiversity and Ecosystem Services process or Global Marine Assessment)
3. Actions
 - Fill governance gaps in high seas sectors
 - Investigate using the public trust idea for governance of ABNJ
 - Invite regional seas conventions and arrangements to consider expanding their mandate to include high seas issues

Conclusion

A central feature of the Singapore Workshop, consistent with widely accepted approaches to ecosystem-based management, was agreement on the pivotal role of effective management by the sectors themselves and their representative bodies in delivering change. At the same time, and again consistent with broader ecosystem-based management, there was clear recognition that sectoral improvements needed to be complemented and guided by more integrated approaches, which brought the sectors together in more cooperative and coordinated approaches.

On this understanding, the Workshop was able to focus on ‘entry points’ as to where more integrated approaches and mechanisms were appropriate and necessary, without prejudice to the role of the sectors. Two discrete themes emerged: adequate and strengthened UN oceans machinery was needed to help embed coordinated inter-governmental and inter-agency work; and secondly, and reflecting a significant new departure, the need to validate and test out such integrated entry points at a practical, management level. Here the work of the Global Environment Facility (GEF), with its large marine ecosystem (LME) and transboundary capacity building work could be key. Detailed discussions on marine genetic resources showed that problematic issues of equity and property rights might also be tested in this pragmatic framework.

Annex 1.

Keynote Address by

Ambassador Tommy Koh, Ambassador at Large, Ministry of Foreign Affairs, during the Workshop on Governance of Areas Beyond National Jurisdiction: Management Issues and Policy Options, 3-5 November 2008, Botany Centre, Singapore

Distinguished members of the Global Forum, ladies and gentlemen

I am very pleased to join you this morning for this workshop appropriately held in this wonderful green environment of the Botany Centre.

I am told that the Global Forum brings together ocean leaders of governments, UN agencies, NGOs, the private sector and science groups from many countries to advance the global oceans agenda, particularly the implementation of the ocean targets from the World Summit on Sustainable Development and to address new challenges like climate change. This workshop however is focused on the governance of marine areas beyond national jurisdiction. Its work aims to promote informal and multistakeholder dialogue to support formal processes that have been established in the UNGA on the subject. Your premise is that the governance of marine areas beyond national jurisdiction is a major issue that countries will need to address and negotiate over the next decade.

One key question in the ongoing ABNJ debate is whether the existing international conventions, such as UNCLOS adequately address emerging governance issues on the use and exploitation of marine living resources in the deepsea areas as opposed to non-living mineral resources in the deep seabed beyond national limits or THE AREA for which Part XI of UNCLOS applies. As the former President of the Conference that negotiated the UNCLOS, I am told I might be able to add value to the workshops' discussions by sharing my experience and interpretation of what the UNCLOS negotiators had meant to cover in 1982 and if there are now emerging lacunas that may necessitate a review.

I understand that some of this debate has already taken place at the meetings of the UN Informal Consultative Process on Oceans and the Law of the Sea (UNICPO-

LOS) and the meetings of the UNAd-Hoc Open ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biodiversity in ABNJs held in New York earlier this year.

Sharing my experience in negotiating and interpreting UNCLOS

First, let me address the issue of whether UNCLOS continues to be adequate to address the ocean issues of today such as the use of marine genetic resources in the deepsea areas beyond national limits. I consider the Treaty as a comprehensive "constitution for the oceans" which was meant to have a long shelf life. The convention covers all aspects of the uses and resources of the world's oceans. It respects the interrelationships among the different aspects of law of the sea. It treats ocean space as an ecological whole. Concerns about the environment surfaced very early in the negotiations of UNCLOS. Consequently, UNCLOS has provisions for the protection of the marine environment alongside provisions for the sovereign rights of States to exploit their marine resources within and beyond national limits. All issues relating to the oceans including protection and preservation of the marine environment, marine scientific research and development and transfer of marine technology were comprehensively covered. The UNCLOS provides a clear legal framework that clarifies the principles and values for the protection of the marine environment yet remains sufficiently flexible to deal with new issues of the day. It appears that the majority of delegates at UNICPOLOS also remain unconvinced that a new international regime for marine genetic resources in ABNJ is needed.

Second, UNCLOS is a finely balanced package deal. The Treaty took 10 years to negotiate during which delicate compromises were arrived at. Countries made concessions in one area in return for gains elsewhere. The provisions in the Convention carefully struck the right balance between the economic interests of those who wished to exploit the living and non-living marine resources and those who wanted to preserve the marine environment. It may be unwise to unravel such a finely balanced package deal to seek specific

provisions for particular issues like marine genetic resources in ABNJ. The principle of carefully balancing the interests of all negotiating parties was the basis for the successful conclusion of UNCLOS. It is important to reserve this balance by working within the existing UNCLOS legal framework even as new issues emerge. It is a matter of understanding the principles and correctly interpreting the provisions in the context of the overall agreement.

Third, on the specific issue of exploitation and preservation of marine genetic resources, it will be useful for 'oceans' people to appreciate and understand the debate among 'land' people on the exploitation, benefit sharing and preservation of plant and animal genetic resources. There must be important synergies in terms of common objectives and governing principles across organisations such as UNCLOS, CBD, FAO and others in this genetics debate. This is where I would like to compliment the integrated approach that the Global Forum has been taking in trying to build the international dialogue on this issue. By building an informal channel for dialogue among all stakeholders whether governments, scientists, industry, IGOs or NGOs you are helping to build up knowledge from an integrated perspective which can best promote solutions that carefully balance the interests of all parties.

Balancing Economic Development and Protection of Marine Environment - The Singapore experience

Let me end with a few comments on Singapore's own experience on how it has tried to maintain its marine biodiversity while at the same time becoming the world's busiest transshipment port. Singapore's waters harbour more coral species and genera per hectare of reef than there are in the Great Barrier Reef. We have achieved this by strictly controlling both land and sea-based sources of marine pollution. Our guiding principle is that protecting the marine environment, maintaining navigational freedoms as well as pursuing economic development are not mutually exclusive. Each of these activities need not be pursued at the expense of the other as long as a careful balance is struck as has been done in the comprehensive framework which UNCLOS

represents. I am pleased to hear that during your stay in Singapore, NParks will be offering you several field trips to show some of our efforts at preserving our biodiversity.

Conclusion

The immediate and real effects of climate change on our oceans and the sustainability of its living resources are serious threats to humanity. Scientists tell us that rising sea levels could wipe out entire countries off the map. Rising water temperatures have the potential to destroy marine ecosystems that may devastate world fishstocks threatening the world's major renewable food resource. The melting of the ice caps may open up new routes for commercial navigation and start a race for the previously inaccessible natural and mineral resources in the Arctic and Antarctic. These are issues that need our attention.

But even as we focus on how to protect our oceans and their resources from the ravages of climate change, we should do so while protecting UNCLOS' integrity. UNCLOS was concluded as a comprehensive package that balanced the competing interests of many diverse states. It has served the international community well over these years and I am sure that it will continue to do so in future. We will need to maintain that careful balance by ensuring that States are faithful in their interpretation and application of the Convention. That will help preserve UNCLOS' position as the key instrument that can continue to sustain international cooperation in safety, security and environmental protection of the oceans and seas.

I wish you a fruitful and enjoyable stay in Singapore.

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About the Global Forum

The Global Forum is comprised of ocean leaders from governments, non governmental organizations, international and intergovernmental organizations, the private sector, and scientific associations with the purpose of advancing the global oceans agenda. “Advancing the global oceans agenda” is meant as: 1) promoting the implementation of international agreements related to oceans, coasts, and small island developing States (SIDS), especially the goals emanating from the 2002 WSSD; 2) analyzing new emerging issues such as improving the governance regime for ocean areas beyond national jurisdiction; and 3) promoting international consensus-building on unresolved ocean issues.

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 World Summit on Sustainable Development, and was later formalized at the WSSD in Johannesburg. The Global Forum is a response to perceived needs for fostering cross-sectoral dialogue on ocean issues among governments, NGOs, international organizations, and the private and scientific sectors; constant advocacy for oceans at the highest political levels; and the imperative of taking 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 experts representing all sectors from 105 countries; organized four Global Conferences (in 2001, 2003, and 2006 at UNESCO in Paris, and in Hanoi, Vietnam in 2008); organized the Ocean Policy Summit in Lisbon in 2005 documenting experiences with integrated oceans governance in over 20 countries and 4 regions around the world;

prepared a number of reports on the implementation of the WSSD ocean targets, reports on ocean issues in island states for the 2005 Mauritius International Meeting, and reports on capacity development needs on ocean and coastal management in 8 world regions; and provided a series of Internet information services, including periodic newsletters.

For information about the Global Forum, please see the Global Forum Website at

<http://www.globaloceans.org>.

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