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SUMMARY WORKSHOP REPORT

Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction (ABNJ)



GLOBAL ENVIRONMENT FACILITY
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PROCEEDINGS





Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction (ABNJ)

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PREFACE

The two-thirds of the ocean comprising the marine areas beyond national jurisdiction (ABNJ) are the concern of all people on earth. The oceans are the life support system of the planet. Oceans generate oxygen, absorb carbon dioxide, and regulate climate and temperature. The ABNJ contain ecosystems with marine resources and biodiversity of great ecological, economic, and cultural importance.

Biodiversity in ABNJ is highly diverse, exhibiting long-lived and slow-reproducing species with unique features and adaptations. There are unique ecosystems in ABNJ which have yet to be fully studied and understood. Essential economic activities take place in ABNJ, including fishing, shipping, scientific research, bioprospecting, telecommunications, with newer activities on the horizon, including seabed mining, oil and gas development, renewable energy, and geoengineering.

Management of the ABNJ is currently done on a sectoral basis, through both global and regional relevant authorities. A major challenge will be to move toward integration of existing experiences and practices aimed at achieving ecosystem-based management of ABNJ, as we have done and are currently doing in ocean areas under national jurisdiction, following the prescriptions of the UN Convention on the Law of the Sea and of the sustainable development summits.

The Global Ocean Forum and the Food and Agriculture Organization of the United Nations co-organized the *Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction*, on February 17 to 20, 2015, at FAO headquarters in Rome, in conjunction with the partners of the GEF/FAO/GOF project on *Strengthening Global Capacity to Effectively Manage ABNJ*, part of the Common Oceans Program, with the support of the Global Environment Facility and the co-financing of many project partners. The Workshop brought together over 100 participants with very diverse perspectives—from leaders in global negotiations to a wide range of leaders from the regional level (from RFMOs, Regional Seas, LME programs, political regional groups), to national authorities, to leaders of NGOs, museums and aquaria, and others.

The Workshop was held in the context of significant advances and ongoing work over the last three years regarding the global oceans agenda.

- The Rio+20 outcome which emphasized the centrality of oceans in sustainable development in its outcome document, *The Future We Want*.
- The adoption of Sustainable Development Goal 14 on oceans and seas, as part of *The 2030 Agenda for Sustainable Development*, (United Nations 2015), including 7 targets, for example, target 14.7 which calls for increased benefits from marine resources for developing countries and small island States.
- The conclusion of the Samoa Pathway, the Third International Conference on Small Island Developing States, which emphasized the integrated management of oceans and the imperative of capacity development.

- The recent decision made in the UN process on marine biodiversity beyond areas of national jurisdiction (January 25, 2015) to “decide to develop an international legally-binding instrument under the Law of the Sea Convention on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction”.
- Work on developing a major climate agreement to be concluded at the UNFCCC COP 21 in Paris.

Purposes of the Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction


The central purpose of the workshop was to better understand and reflect on the different ongoing processes at *the global, regional, and national levels*, with a central focus on fisheries and biodiversity conservation, and promoting linkages among processes at these various levels.

- At the *global level*, nations have been considering the need for new global rules regarding ABNJ since 2004. After many years of discussion, a decisive moment came in January 2015, with the decision to decide on the development of a legally binding instrument that will address “together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity building and the transfer of marine technology.” This is expected to lead to the development of new global rules to guide resource use and management in the ABNJ.
- At the *regional level*, we have seen/are seeing significant problems in resource decline and multiple use conflicts in all regions of the world ocean, and, increasingly, innovation and adaptation on the part of existing regional institutions to address the problems and issues and to take advantage of new opportunities.
- At the *national level*, national authorities are becoming increasingly aware of the role that the oceans play in planetary survival, their own role and responsibilities as stewards of the global ocean, and are developing greater understanding of how ABNJ activities and issues can affect ocean zones under national jurisdiction.

The purpose of the Workshop was to understand these developments at the global, regional, and national levels, to provide linkages among them, and to draw lessons from existing experiences, especially from regional and national levels.

The Workshop also showcased the ongoing activities and insights being developed through the Common Oceans Program (commonoceans.org), led by FAO, supported by \$50 million in financing by the GEF, with \$270 million in co-financing from many program partners, and considered how the regional, global, and national developments discussed at the Workshop could be used to further mold and refine the Common Oceans Program so it can achieve maximum impact and synergy with other ongoing developments.

This Workshop Summary Report presents an overview of the major discussions that took place at the Workshop, which advance our common understanding of the issues, opportunities, and responsibilities toward Marine Areas Beyond National Jurisdiction.



Many institutions and individuals contributed to the organization and conduct of the Workshop, and we would like to thank them very sincerely, including:

- the partner organizations of the Common Oceans Program and ABNJ Capacity Project;
- the high-level ocean leaders and experts who provided their perspectives and other input during the Workshop;
- the co-chairs and rapporteurs for efficiently and effectively running the sessions;
- and other personnel of FAO, GOF, and the University of Delaware who provided assistance in the preparation and conduct of the Workshop and in the preparation of this report.

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1. INTRODUCTION

The importance of the marine areas beyond national jurisdiction (ABNJ) and the Common Oceans Program

The marine areas beyond national jurisdiction (ABNJ), which comprise 64 percent of the oceans' surface, contain ecosystems with marine resources and biodiversity of great ecological, socioeconomic, and cultural importance. The ecosystems in the ABNJ include the water column and seabed of the high seas, and are located far from coastal areas, making the sustainable management of fisheries and biodiversity conservation in these areas challenging.

There is widespread agreement on the need to improve conservation of marine ecosystems and sustainable use of resources in ABNJ at both global and regional levels emphasizing the need for links between regional and global management processes in ABNJ. In various ABNJ regions of the world, such as the Northeast Atlantic, the Sargasso Sea, the Indian Ocean, and the Pacific Islands, important initiatives are underway to adapt existing regional institutional processes to move toward ecosystem-based management of ABNJ and to implement tools such as multiple-use area-based management and environmental impact assessment. Experiences, knowledge gained, and lessons learned from regional initiatives in fisheries management and biodiversity conservation in ABNJ need to be shared across regions and linked to ongoing global processes for maximum results and transformational impacts. The GEF/FAO Common Oceans Program addresses this need, among other objectives as discussed below.

The GEF/FAO program on Global Sustainable Fisheries Management and Biodiversity Conservation in the Areas Beyond National Jurisdiction Program (Common Oceans Program) started in 2014 to bring about improvement in the management and conservation of tuna and deep-sea fisheries resources and biodiversity in ABNJ, in order to achieve global targets and goals. The Common Oceans Program connects a variety of partners from governments, regional management bodies, civil society, the private sector, academia and industry to reach a common goal of sustainable use and conservation of biodiversity and ecosystem services of ABNJ (Turner, 2015; Glineur, 2015).

One of the four projects under the Common Oceans Program, the GEF/FAO/GOF project on *Strengthening Global Capacity to Effectively Manage Areas Beyond National Jurisdiction (ABNJ Capacity Project)* aims to facilitate global and regional cross-sectoral policy dialogue and coordination, improve knowledge management and outreach, and contribute to increased capacity for decision-making at various levels of ABNJ management. The Global Ocean Forum (GOF) and Food and Agriculture Organization of the United Nations (FAO) are the co-executing agencies of the project.

Overview of the Workshop

Within the framework of the ABNJ Capacity Project, the Global Ocean Forum and FAO co-organized the *Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction* from 17 to 20 February 2015 at FAO headquarters in Rome, with funding support from the Global Environment Facility (GEF). The Workshop was conducted in collaboration with the project partners of the ABNJ Capacity Project noted in Box 1. Over one hundred participants

convened for an open and constructive policy dialogue for supporting national, regional, and global processes in place (formal and informal) in enhancing ecosystem approaches to the management of ABNJ. Participants included experts and high-level representatives from all sectors with expertise, knowledge and experience in ABNJ issues, including global, regional, and national decision-makers; representatives from industries operating in ABNJ; United Nations delegates; intergovernmental organizations; non-governmental organizations; participants in the FAO/GEF Common Oceans Program; policy experts; legal scholars; and academics.

Box 1

Project partners of the GEF/FAO/GOF project on *Strengthening Global Capacity to Effectively Manage Areas Beyond National Jurisdiction*

- Convention on Biological Diversity Secretariat
- Deep Sea Conservation Coalition
- Government of France (French Marine Protected Areas Agency)
- Government of the Republic of Korea (Korea Institute of Ocean Science and Technology)
- Institute for Sustainable Development and International Relations (IDDRI), France
- International Maritime Organization
- International Ocean Institute
- Nausicaa (Centre National de la Mer), France
- Partnerships in Environmental Management for the Seas of East Asia
- UN Division for Ocean Affairs and the Law of the Sea
- SeaOrbiter, UNESCO (Intergovernmental Oceanographic Commission)
- UNESCO (Natural Sciences)
- University of Delaware
- Vietnam National University
- Western Indian Ocean Marine Science Association
- World Ocean Network

The Workshop aimed to:

- Assess knowledge, ongoing trends and efforts at national/regional and global levels, and available capacity relevant to sustainable management of fisheries and biodiversity conservation in ABNJ; exploring, in particular, the implications of these for the FAO/GEF Common Oceans Program;
- Foster cross-sectoral linkages for improved information-sharing on ABNJ across sectors, and between global and regional levels;
- Share and exchange lessons learned, best practices, and emerging trends in research, development, and management of ABNJ resources from various regions of the world;
- Provide a synthesis on the current state of knowledge on relevant global and regional policy processes that could be used to: 1) address areas of uncertainty due to a weak knowledge base on fisheries and biodiversity and 2) improve sustainable use of fishery resources and conservation of biodiversity in the ABNJ.

The workshop consisted of eight panels, which focused on:

1. The importance of ABNJ
2. Major uses and issues
3. Capacity development
4. Experiences, priorities and opportunities in the South Atlantic and Indian Ocean, North Atlantic and the Mediterranean, and in the Pacific
5. Lessons learned from past initiatives.

Three break-out groups organized by regions discussed advancing regional management of ABNJ. Pre-workshop activities involved pre-meetings of the Communities of Practice and ABNJ Public Outreach Network, part of the activities under the capacity development and knowledge management components of the ABNJ Capacity Project.

Overview of the Workshop Report

This report is organized into seven sections.

- **Section 1** provides an introduction to the importance of ABNJ and to the Common Oceans Program, an overview of the Workshop and of the summary report (drawn from Session 1 - Opening Session: Importance of areas beyond national jurisdiction).
- **Section 2** provides reviews the major uses, trends, and threats to ABNJ (drawn from Session 2 - Setting the stage: major uses and issues in ABNJ).
- **Section 3** reviews developments related to ABNJ at the global level (also drawn from Session 1).
- **Section 4** discusses possible approaches to, and tools in, integrated and ecosystem-based management that could be applied in ABNJ.
- **Section 5** summarizes the imperatives of capacity development in ABNJ drawing from the existing capacity and gaps identified at the workshop, and ongoing initiatives reported in various sessions (Session 3 - The imperative of capacity development in ABNJ).
- **Section 6** summarizes the experiences and lessons learned as well as the priorities and opportunities in ABNJ management in various regions. In the South Atlantic and Indian Ocean, North Atlantic and the Mediterranean and in the Pacific, drawing from presentations in Session 4 - Experiences, priorities and opportunities in the South Atlantic and Indian Ocean; Session 5 - Experiences, priorities and opportunities in the Pacific; Session 6 - Experiences, priorities and opportunities in the North Atlantic and Mediterranean; and Session 8 - Learning lessons, charting directions) as well as from the discussions by the regional break-out groups (Session 7 - Break-out discussions on advancing regional management of ABNJ).
- **Section 7** provides concluding observations on the outcomes of the workshop.

The list of Workshop presentations from which most of the substance of this report was drawn and a list of additional sources (i.e. other information resources/literature reviewed that are relevant to the topics addressed by the Workshop) are included at the end of the report along with the workshop agenda.

2. MAJOR USES AND TRENDS IN, AND

THREATS TO ABNJ

Major uses and trends in ABNJ

The oceans support human life in a variety of ways, by providing important resources as well as ecosystem services. There are many important uses of ABNJ, including fishing, deep-sea mining, and harvesting marine genetic resources. Shipping and submarine cables are also vital activities that take place in these areas. Additional uses of ABNJ include dumping and dredging, offshore renewable energy, cables and pipelines, construction of artificial reefs, land reclamation, tourism, mariculture, and dumping of munitions (Campbell, 2015).

Fisheries play a major role in the global food supply. Within ABNJ, fisheries include both highly migratory, (species with a large geographic distribution and migrate across oceans, such as tuna, sharks, and swordfish) and discrete stocks (stocks that remain in the same area, such as orange roughy, blue ling, and alfonsino) (Sanders, 2015). Fisheries management covers many aspects, including socio-economic dimensions, time scales, fleet capacity and technological considerations, environmental constraints, resource characteristics, and biodiversity and ecological considerations (Sanders, 2015). Regional Fisheries Bodies, RFMOs, and multilateral organizations support fisheries management within ABNJ (Sanders, 2015a). Major binding instruments for fisheries management include UNCLOS, the UN Fish Stocks Agreement, and the Port State Measures Agreement (Sanders 2015). Some of the key non-binding measures include the FAO Code of Conduct for Responsible Fisheries, UNGA Resolutions, the Johannesburg Plan of Implementation, and FAO International Guidelines (Sanders, 2015).

Technological advancements have also allowed for deep-sea mining of important minerals such as Ni, Co, Cu, Au, Zn, and Ag (Johnson, 2015a). Oil and gas exploration, sand and gravel extraction, are other extractive activities that yield important resources from ABNJ (Campbell, 2015).

The harvesting of genetic resources is a growing use of the oceans, including in ABNJ. The diversity of ecosystems and species found within the deep and open ocean provide significant benefits to humankind (Vierros, 2015a). Many important products are a result of marine genetic resources, including compounds used for pharmaceuticals, antifreeze proteins from fish, seaweeds and enzymes for biofuel development, cosmetics, and anti-aging products (Vierros, 2015a).

The global economy is dependent upon shipping, which is responsible for more than 80 percent of world trade (Haag, 2015). Everything from raw materials, commodities, finished goods to food and fuel is shipped via the ocean (Haag, 2015). Shipping is considered to be a “safe, secure and environmentally friendly transport system” (Haag, 2015). While there are International Maritime Organization (IMO) conventions on issues such as discharge, noise, ocean fertilization, CO₂ sequestration, waste, and establishment of Particularly Sensitive Sea Areas, it is up to Flag States, Port States, and Coastal States to help enforce these conventions as the IMO has no policing power (Haag, 2015).

Submarine cabling is a vital use of ABNJ, as they are responsible for global communications. There is no single global submarine network, rather a system of cables is owned by a consortia

of 4-30 private companies (Burnett, 2015). Cables are not flagged to a single State, and repairs are completed through private contracts (Burnett, 2015). Submarine cables experience few faults and are thought to have a neutral to benign environmental impact on the seafloor, as they are laid on the surface, not buried, and are laid to avoid seamounts, vents, and other steep geographic features (Burnett, 2015).

Threats to ABNJ

The deep and open ocean contains a variety of ecosystems, species and genetic resources that provide immense and numerous benefits to mankind, which are threatened by human pressures, often in a cumulative way (Vierros, 2015a). These threats include the fragmented legal, policy and institutional regime which lacks structure, consistence and coherence (Vierros, 2015a). Moreover, modern conservation principles and tools, e.g. ecosystem approach, area-based-management and EIA/SEA are not consistently incorporated in existing instruments (Vierros, 2015a). These threats also include ocean fertilization, shipping, Illegal, unreported and unregulated (IUU) fishing, extractive activities, marine debris and pollution, ecosystem impacts, and increased pelagic fishing for highly migratory species (Turner, 2015). ABNJ presents unique challenges, among them: complex ecosystems, many actors with different agendas, large area (40 percent of the surface of the Earth, 65 percent of the surface of the oceans, and nearly 95 percent of the ocean's volume), as well as failing on established targets (Rio, WSSD, and Aichi) (Turner, 2015).

Fisheries face many unique challenges. Not only can climate change and other environmental factors threaten stocks, but overharvesting can also lead to the loss of important fishery resources (Danovaro, 2015). Major challenges for fisheries in ABNJ include the expense of monitoring, control and surveillance (MCS); lack of knowledge on ecosystems, stocks and habitats as well as the dynamics of the fisheries; the sparseness and cost of research for ABNJ; and fish moving across jurisdictional boundaries can cause unique issues (Sanders, 2015). IUU fishing is especially problematic because it results in biodiversity and economic losses to other fishermen (Chopin, 2015). By-catch from fisheries is another major issue, as it wastes potential food sources and results in the loss of biodiversity (Chopin, 2015). While RFMOs have changed policies and management practices, even basic texts in some cases, and although biodiversity requirements are being recognized, issues such as the role of forage species, trophic relationships and other dependencies, and other ways to maintain ecosystem structure and function still need to be assessed and agreed upon (Garcia, 2015).

Threats from climate change are of particular concern as changes in water temperatures and pH place stress on organisms. Climate change may cause species composition changes, differences in species abundance, changes in species richness, and altered ecosystem functioning (Danovaro, 2015). Ocean warming may cause invasive species to take hold in new habitats, and climate change may cause increased deoxygenation (Danovaro, 2015). Ocean acidification is expected to cause adverse effects to species, as well as to communities and ecosystems (Danovaro, 2015).

Other threats to ABNJ include mining, marine litter, and shipping. Mining and other extractive activities can create pollution and can be destructive to the marine environment. Seabed mining can create potential impacts to the seafloor, water-column, and surface (Johnson, 2015a). The deep seas are home to specialized animals, including chemosynthetic organisms at hydrothermal vents, which have long recovery times and there is often an incomplete knowledge of species

range and diversity (Johnson, 2015a). Marine litter can cause entanglements and can also cause marine species to choke or suffer from malnourishment. Noise from ocean activities can also pose a threat to marine species. Shipping can cause operational discharges, pollution (either accidental or intentional), and physical damage to marine life and habitats (Haag, 2015).

Resources harvested in ABNJ face unique management challenges as they are utilized by many parties, making it critical to take a collaborative approach to sustainable management. Linkages between ABNJ and national jurisdiction provide biological unity and food security (Chopin, 2015). Additionally, because of this link, there are cross-impacts of resource exploitation and pollution and there is thus a need to provide compatible management measures (Chopin, 2015). While there are major threats to ABNJ, a transformational impact can be seen in moving away from the race to fish, increasing capacity to protect fragile ecosystems, reduce barriers to international and cross-sectoral sharing of knowledge and experiences, moving towards an ecosystem approach (Turner, 2015).

3. DEVELOPMENTS AT THE GLOBAL LEVEL

This section provides a brief introduction on the broader context within which fisheries management, biodiversity conservation, and other management issues in ABNJ have been addressed at this workshop. Specifically, the global process towards the development of an international legally-binding instrument on ABNJ under UNCLOS; the forging of a climate agreement at the UNFCCC COP 21 in Paris in December 2015; and the development of the Post-2015 Development Agenda, among others, are considered particularly relevant.

Development of an international legally-binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction

In 2004, the United Nations General Assembly (UNGA) established 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 (BBNJ). The mandate of the BBNJ Working Group is: (a) To survey the past and present activities of the United Nations and other relevant international organizations with regard to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction; (b) To examine the scientific, technical, economic, legal, environmental, socio-economic and other aspects of these issues; (c) To identify key issues and questions where more detailed background studies would facilitate consideration by States of these issues; (d) To indicate, where appropriate, possible options and approaches to promote international cooperation and coordination for the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction¹. Having met nine times between 2006 and 2015², the BBNJ Working Group recently agreed by consensus to provide recommendations for a decision by the UNGA on the development of a new legally binding instrument under UNCLOS on the conservation and sustainable use of marine biodiversity in ABNJ.

The recommendations include: the establishment of a preparatory committee to make substantive recommendations for the draft text of the instrument, beginning work in 2016 and ending in

2017; the start date for an intergovernmental conference to consider recommendations of the preparatory committee is to be decided by the seventy-second session of the General Assembly; and the topics addressed in the negotiations are those decided in the 2011 package, namely “the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity-building and the transfer of marine technology³.”

While obtaining consensus for the new agreement to be negotiated was no small task which included “almost ten years of negotiations” (Kohona, 2015), there are still “those that remain unconvinced of the need of a new instrument” (Lijnzaad, 2015). Even though “the general feeling among the clear majority of delegations participating in the ad-hoc working group was that there is a major gap in the legal framework that needed to be addressed” (Kohona, 2015), keeping the unconvinced few engaged “in terms of moving forward on the grand project, if it is to cover all of the world’s oceans” (Lijnzaad, 2015), is a challenge as the preparations begin for the next phase.

BBNJ involves a complex set of issues that need to be addressed in candid, open and constructive discussions to advance our common understanding of these issues. A developing country perspective from the Caribbean presented at the workshop considered biodiversity in ABNJ as “leftover business” from the negotiations for UNCLOS in 1994 and that the time has come to address whatever governance or legal gaps may exist in the 32- year old UNCLOS (Charles, 2015). Biodiversity is found in the Area and in the water column in ABNJ as well, for which no regulatory framework exists. But since these resources are located beyond national jurisdiction, they should be explored and exploited, and utilized in a sustainable manner for the international community as a whole (Charles, 2015). A perspective from the European Union further argues that UNCLOS provides the regime of common heritage of mankind as well as the regime of freedom of the seas, but neither applies in this case, pointing to the need to build a new ABNJ regime based on a hybrid approach, one that should have global responsibility to regulate the problem of conservation and sustainable uses of marine biodiversity as a whole (Scovazzi, 2015).

There is broad consensus among governments, IGOs, and civil society, however, that the new implementing agreement to UNCLOS should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies, but should organize coordination among these institutions (Scovazzi, 2015; Semedo, 2015). Instead, joint efforts, building on established and emerging partnerships and global best practices, should assist in the management, sustainable use and protection of marine living resources and associated ecosystems to benefit present and future generations (Semedo, 2015), even as global processes work to address gaps in the existing regulatory framework in ABNJ.

Examples of such cooperation, involving governments, IGOs, NGOs, the scientific community, and other stakeholders, include the FAO’s Blue Growth initiative and the EBSA (ecologically or biologically significant marine areas) process led by the CBD Secretariat. The Blue Growth initiative *aims at maximizing socioeconomic benefits from a sustainable management of our living aquatic natural resources, which places a strong emphasis on national and regional policies that are responsible and sustainable and that lead to economic growth and food security* (Semedo, 2015). Through the EBSA process, the CBD Secretariat has facilitated the scientific description of a total of

204 areas as meeting the EBSA criteria, which are candidate areas in need of protection (Ferreira de Souza Dias, 2015).

Development of a climate agreement to be concluded at the UNFCCC COP 21 in Paris

The twenty-first session of the Conference of Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) is set to meet 30 November to 11 December 2015 in Paris, France. This COP will build on the momentum generated by the outcomes of the Durban Climate Change Conference, which launched the process for a new universal, legal agreement to deal with climate change after 2020 by establishing the ad hoc Working Group on the Durban Platform for Enhanced Action (ADP). The ADP has the mandate to develop the new legal agreement no later than 2015 in order for adoption at the twenty-first COP. With the second commitment period of the Kyoto Protocol coming to an end in 2020, the new agreement hopes to deliver a new, universal legal agreement for climate change beyond 2020 and is expected to bind nations together in a global effort to reduce emissions. Elements of the negotiating text includes mitigation, adaptation and loss and damage, finance, technology development and transfer, capacity building, transparency of action and support. Further negotiation on the draft text will occur in Bonn in June 2015, where the text will be further elaborated and provides an opportunity for outstanding issues to be resolved⁴.

As COP 21 draws near, States have been ramping up their commitments for emission reductions and outlining what efforts they will take on under the new agreement, including publicly disclosing steps to reduce emissions and achieve climate neutrality (Ribera, 2015). States have also made further commitments for climate financing, pledging donations to the Green Climate Fund, which stands at over \$10.2 billion, and making donations towards adaptation efforts of developing countries (Ribera, 2015). In addition, States have been switching to cleaner technologies in efforts to reduce emissions from fossil fuels. For example, Latin America has embraced the use of solar power to reduce carbon emissions and the use of information and communication technologies in India and Malaysia is helping to achieve better use of energy and reduce emissions (Ribera, 2015).

Although there are high hopes for this new and universal legal agreement for climate change, oceans and seas are largely left out of the draft text. While there are other fora for ocean issues and potentially fragmenting governance or preempting other processes is a concern if oceans are included within the UNFCCC process, the fact that oceans and seas play a major role in climate regulation means a significant factor in reducing the effects of climate change as well as adaptation and mitigation measures is left out of the potential solutions to the climate change issue. For example, the negotiating text makes references to terrestrial carbon sinks, forests, but makes no mention to marine carbon sinks, such as wetlands. Including the oceans and seas into the UNFCCC process could provide additional ways forward when it comes to minimizing impacts from climate change.

Development of the Post-2015 Development Agenda

Rio+20 launched “an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals” (*The Future We Want*, para. 248). The UN Open Working Group on Sustainable Development Goals was tasked with this process of developing the sustainable development goals (SDGs). In July 2014, after 13 sessions, the Open Working Group (OWG) released the consensus

document, Open Working Group Proposal for Sustainable Development Goals⁵, which details the 17 proposed SDGs (and 169 targets, including 62 targets on means of implementation). This SDG package was up for consideration by the 69th session of the UN General Assembly, and was adopted via resolution⁶ in September 2014.

Goal 14 of the SDG package is “Conserve and sustainably use the oceans, seas and marine resources for sustainable development.” Having oceans and seas featured prominently as a stand-alone goal was a joint effort and supported by Member States around the globe, especially the Pacific Small Island Developing States and Timor-Leste, and a number of intergovernmental organizations and civil society (including FAO, GOF, and IOC of UNESCO) who were vital to leading the support for a stand-alone ocean and seas goal. Targets for the oceans and seas goal include: preventing marine pollution; sustainably managing and protecting marine and coastal ecosystems; minimizing impacts from ocean acidification; addressing illegal, unreported and unregulated (IUU) fishing, overfishing, and ending destructive fishing practices; conserving at least 10 percent of coastal and marine areas; prohibiting certain forms of fisheries subsidies which contributed to overfishing, overcapacity, and IUU fishing; and increasing the economic benefits to SIDS and LDCs from the sustainable use of marine resources. Means of implementation include increasing scientific knowledge, developing research capacities and transfer of marine technology; providing small-scale and artisanal fisheries access to marine resources and markets; and ensuring the full implementation of international law, including existing regional and international regimes⁷.

Intergovernmental negotiations are now building upon the work of the OWG and working to solidify the package before the UN Summit to adopt the Post-2015 Development Agenda in September 2015. There is much discussion at these negotiations, with States divided on whether or not to re-open discussions on the goals and targets or to focus on developing indicators for those goals and targets (IISD, 2015). The discussion on indicators at the intergovernmental negotiations have centered on the indicators being cross-cutting, multi-dimensional, complementary, measureable, limited in number, simple, balanced, qualitative, and quantitative, as well as address the particular circumstances of developing countries. The UN Statistical Commission has created the Inter-Agency Expert Group on Sustainable Development Goal Indicators to help develop an indicator framework for the SDGs. This Expert Group has released a “road map”⁸ for the development and implementation of the indicator and monitoring framework for the goals and targets of the post-2015 development agenda. Part of the work the Expert Group has carried out was an initial assessment⁹ of the indicators that can be used for monitoring. This assessment rated the indicators according to feasibility, suitability, and relevancy to measure the target it was proposed under. The results show there is much work to be done on providing indicators which match the feasibility, suitability, and relevancy standards required in order to carry out the SDGs.

4. POSSIBLE TOOLS AND APPROACHES TO INTEGRATED AND ECOSYSTEM-BASED MANAGEMENT IN ABNJ

Sectoral management is the predominant management approach being carried out in ABNJ by regional and international organizations. The level of effectiveness and progress achieved through these sectoral mechanisms, the interlinked nature of the environment and resources in ABNJ, and the threats that continue to undermine their structure and function, indicate the need for an integrated approach to management. Among the proven approaches that can be transferred from the management of the EEZs to the management of ABNJ are the overarching frameworks of integrated coastal and ocean management (ICM), ecosystem-based management (EBM), and marine spatial planning (MSP), which all emphasize a multiple-use, area-based approach, as well as sector-specific area-based management approaches.

Integrated coastal and ocean management (ICM)

The integrated coastal and ocean management (ICM) approach, which is a multi-sectoral approach to management is widely applied in coastal zones and in EEZ areas. Reports in the 1990s indicated a global proliferation of ICM especially in developing countries (Sorensen, 2002). Originating in the 1990s, *ICM is a continuous and dynamic process by which decisions are taken for the sustainable use, development, and protection of coastal/marine areas and resources* (Cicin-Sain and Knecht, 1998). It is a *natural resource and environmental management framework which employs an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal area* (Chua, 2006). Major international agreements have incorporated the approach as the framework of choice. ICM has been applied by various countries in the development of national ocean policies which extend the scope of management to incorporate their EEZs (Cicin-Sain and Knecht, 1998; Balgos, Cicin-Sain, and VanderZwaag, 2015).

Ecosystem-based management (EBM)

The ecosystem-based management (EBM) approach is defined by the CBD as *a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way* (CBD, 2000). EBM is also defined as *an integrated approach to management that considers the entire ecosystem, including humans and integrates ecological, social, economic, and institutional perspectives* (McLeod *et al.*, 2005). Thus, EBM takes into consideration the various components of the ecosystem, e.g., land, water, living resources, including humans, as well as the different dimensions of management, e.g., ecological, social, and economic, with the goal of maintaining an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. EBM also considers the cumulative impacts of different sectors (McLeod *et al.*, 2005).

Ecosystem approach to fisheries (EAF)

The ecosystem approach to fisheries (EAF), the fisheries sector application of EBM, *strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries* (FAO, 2003). Regional fishery bodies and arrangements are in various stages of implementing EAF. The types of action that have been undertaken or initiated by RFMOs include: (1) debates on the EAF issue and implications; (2) identification of key ecosystem issues; (3) collection of additional information; (4) holding of special working and advisory groups; (5) agreement on non-binding measures to improve selectivity; develop ecosystemic assessment, monitoring and modelling; protect endangered species and habitats; reduce bycatch and discards; use the precautionary approach; develop educational

programmes; establish catch documentation; consider pollution from ships and marine debris; and fight against illegal fishing; (6) discussion of collaboration with Regional Seas Conventions. A few binding measures have been adopted by a number of RFMOs such as: formal adoption of EAF; bycatch reduction measures; habitat protection and MPAs, precautionary management and endangered species. (Garcia, 2006)

EAF has also been implemented at the regional level in large marine ecosystems programs. One example is the Benguela Current Large Marine Ecosystem (BCLME) project, which investigated the feasibility of EAF in the region by examining the existing issues, problems and needs related to EAF and considering different policy options to achieve sustainable resource management (FAO, 2007). Moreover, the formation of the Benguela Current Commission (BCC) in 2006 has facilitated the coordinated efforts of the countries involved (Angola, Namibia and South Africa) to address broad issues such as recovery of depleted stocks, restoration of degraded habitats and control of coastal pollution. The BCC will extend its focus beyond fisheries management and therefore implement EAF plans in broader context of an ecosystem approach to ocean governance (MEAM, 2009; OECD, 2010).

The application of EAF has made major advances, including implementation through VMEs and in combination with other management approaches, e.g., MPAs, EBSAs; improved policy frameworks and information systems, e.g., development of a regional Ecosystem Approach Roadmap (Kingston, 2015); assessment of implementation; and cooperation among major institutions responsible for addressing fisheries and biodiversity issues (Garcia, 2015).

Marine spatial planning (MSP)

Marine Spatial Planning (MSP) involves analyzing and allocating parts of three-dimensional marine spaces to specific uses, to achieve ecological, economic, and social objectives that are usually specified through the political process (UNESCO, 2006). As with ICOM, the lessons from the application of MSP in areas within national jurisdiction provides a wealth of learning that could be adapted in area-based management in ABNJ (UNEP, 2008). Its application has great potential to improve management of shared resources at ecosystem and transboundary scales (GEF STAP, 2012), e.g., the EU's MSP Framework Directive, which provides for setting up of mechanisms for cooperation among neighbors (Gambert, 2015). Moreover, theoretically, marine spatial planning can be undertaken in transboundary space and areas beyond national jurisdiction (ABNJ), but there is very limited experience in systematic planning in these areas to draw on (GEF STAP, 2012).

Existing multilateral institutions such as those that support Regional Seas and Large Marine Ecosystems could also support the implementation of transboundary MSP, which can also be based on the diagnostic analyses, inter alia, and implemented through strategic action plans (SAP) that flow from these analyses. The participation of sectoral organizations such as the IMO, RFBs, FAO, and ISA is necessary for implementing MSP in areas beyond national jurisdiction (GEF STAP, 2012).

Sector-specific area-based management approaches

Area-based management is a type of management approach being used in the marine environment that entails spatially dividing the marine environment for a variety of compatible uses and accounting for the many stressors on the ecosystem (GBMF, 2007). It accommodates various types of uses while controlling the adverse impacts of those uses on the marine environment and on the ecosystems

and resources found therein (UNEP, 2008). There are various types of area-based management that are sector-driven, which includes vulnerable marine ecosystems (FAO), Particularly Sensitive Sea Areas (IMO), "special areas" (IMO), areas of particular environmental interest (ISA), "impact reference zones" and "preservation reference zones" (ISA), marine protected areas established through regional seas conventions, and ecologically or biologically significant marine areas (EBSAs) (CBD). Component 4 of the ABNJ Deep Sea Project will be focusing on the development and testing of a methodology for area-based planning for biodiversity conservation in ABNJ (Tandstad, 2015a).

Vulnerable marine ecosystems (VME)

A vulnerable marine ecosystem (VME) is described in the [FAO] Deep-sea Fisheries Guidelines by its characteristics and by its vulnerability. Vulnerability is dependent upon the nature of the fishery and hence region dependent (FAO, 2009). Identification of VMEs require the application of a set of criteria, which includes: 1) uniqueness or rarity; 2) functional significance of the habitat; 3) fragility; 4) life-history traits of component species that make recovery difficult; and 5) structural complexity (FAO, 2009). Even before the UNGA resolution and FAO technical guidelines on the identification and protection of VMEs, NEAFC have started closing VMEs in 2004. Protection of VMEs by NEAFC include: 1) identifying VMEs and adopting appropriate management measures (including area closures); 2) adopting precautionary measures in areas where VMEs are likely to occur; 3) ensuring that encounters with VMEs result in an appropriate reaction (such as temporary closures); 4) ensuring that prior assessments are made before exploratory fishing begins in new areas; and 5) ensuring that new areas are only open to bottom fisheries after assessing results from fishing under exploratory fishing plan (Asmundsson, 2015).

Particularly Sensitive Sea Areas (PSSAs) and Special Areas

Particularly Sensitive Sea Areas (PSSAs), designated through the International Maritime Organization (IMO), may be established where shipping poses a serious threat to the marine environment. A Particularly Sensitive Sea Area is one that needs special protection through the adoption of associated protective measures by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities (UNEP, 2008). Currently, 14 PSSAs have been designated by IMO, none of which so far, are located in ABNJ (Haag, 2015).

MARPOL 73/78 defines certain sea areas as "special areas" where, for technical reasons relating to their oceanographic and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required. Under the Convention, these special areas are provided with a higher level of protection than other areas of the sea. MARPOL 73/78 also establishes certain sulphur oxide Emission Control Areas with more stringent controls on sulphur emissions (IMO 2005). There are 19 Special Areas and 3 Emission Control Areas established under MARPOL (Haag, 2015). MARPOL Special Areas that include the high seas are as follows: Annex I (no oily discharges): the Mediterranean Sea and the Antarctic area (south of 60S); Annex II (no noxious liquid discharges): Antarctic area (south of 60S); and annex V (no garbage discharge): Antarctic (south of 60S) (UNEP, 2008).

Areas of particular environmental interest and reference zones

In 2012, the International Seabed Authority has designated a representative network of "areas of particular environmental interest" (APEI) as part of the comprehensive environmental management

plan to ensure effective protection of the marine environment of that part of the Area known as the Clarion-Clipperton Zone from harmful effects that may arise from activities in the Area (ISA, 2012). This has been done in advance of contractor-designated “impact reference zones” and “preservation reference zones” which are areas to be used for assessing the effect of activities in the Area on the marine environment and which are representative of the environmental characteristics of the Area, and areas where no mining occurs, to ensure representative and stable biota of the seabed remain, in order to assess any changes in the flora and fauna of the marine environment, respectively (ISA, 2000; Gjerde, 2013). The rules and regulations on polymetallic nodules require contractors applying for exploration rights to include “proposals for areas to be set aside and used exclusively as impact reference zones and preservation reference zones” in programs for monitoring and evaluating impacts of deep seabed mining on the marine environment (ISA, 2000).

Marine protected areas

In its decision VII/5, the Conference of the Parties (COP) to the Convention on Biological Diversity, at its seventh meeting, agreed that MPAs are one of the essential tools and approaches in the conservation and sustainable use of marine and coastal biodiversity. The Conference of the Parties also recognized the need for international cooperation and action to improve conservation and sustainable use of biodiversity in marine areas beyond the limits of national jurisdiction, including the establishment of further MPAs consistent with international law, and based on scientific information, including areas such as seamounts, hydrothermal vents, cold-water corals and other vulnerable ecosystems (CBD, 2005a). In the Mediterranean, States have established MPAs in ABNJ. The Pelagos Sanctuary for Mediterranean Marine Mammals, initially established by a tripartite agreement among France, Italy, and Monaco in 1999, was accepted as a specially protected area of Mediterranean interest in 2001, making its protection binding on all 21 parties to the Barcelona Convention (CIESM, 1999; CBD, 2005b; Scovazzi, 2015). In 2009, CCAMLR approved a high seas marine protected area south of the South Orkney Islands in the Antarctic Peninsula Region (WWF, 2009). The OSPAR Commission has established six new conservation areas in international waters in the North Atlantic, including the Charlie-Gibbs Marine Protected Area (WWF and BFN undated).

Ecologically or biologically significant areas (EBSAs)

In 2008, CBD established seven criteria to be used in the identification of ecologically or biologically significant marine areas (EBSAs) “in need of protection, in open ocean waters and deep sea habitats” (“the EBSA process”). Initially driven by the motivation to establish marine protected areas in ABNJ, the EBSA process has since broadened to encompass the possibility of informing marine spatial planning and other management and governance activities, both within and beyond national jurisdiction, especially due to the overlap between the EBSA criteria and biodiversity criteria used by various high seas and regional governance institutions. Through the EBSA process, almost 204 EBSAs have been described, and a large percentage of the global ocean has been considered by nine regional EBSA workshops (Ferreira de Souza Dias, 2015). However, the procedures by which these areas could be protected through formal management structures have not yet been developed (Balgos and Hamon, 2013).

Environmental Impact Assessment and Strategic Environmental Assessment

Environmental impact assessment (EIA) is ‘a procedure for evaluating the likely impact of a proposed activity on the environment’ (United Nations, 1991). First adopted in the United States in 1970,

it has become an important tool in national environmental management, with a large number of nations implementing the practice in various forms (Birnie, Boyle and Redgwell, 2009), including: project level EIA, Strategic and Sectoral Environmental Assessments including at the regional level (e.g., EU Directive on Strategic Environmental Assessment), Country Environmental Assessments, and Environmental Audits and Appraisals (MFI-WGE, 2005). EIA primarily aims to ensure that environmental and social impacts of certain activities are identified and addressed. The EIA process provides decision-makers and stakeholders with adequate information when deciding whether to authorize an activity (Birnie, Boyle, and Redgwell, 2009; MFI-WGE, 2005).

In ABNJ, the requirement to carry out EIAs is implemented in a fragmented way. UNCLOS provides a general obligation to carry out such assessments “when States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment”. However, this requirement is poorly implemented (Druel, 2013). Under the CBD, Voluntary Guidelines for the consideration of biodiversity in environmental impact assessments and strategic environmental assessments in marine and coastal areas were adopted in 2012 (UNEP, 2012; CBD COP 11, Decision XI/18 on Marine and Coastal Biodiversity).

5. THE IMPERATIVE OF CAPACITY DEVELOPMENT

Capacity development has been and remains a central theme in ocean management and governance. UNCLOS provides for transfer of technology under the Authority (Article 144); scientific and technical assistance to developing States regarding marine pollution (Article 202); and development and transfer of marine technology (Part XIV). Capacity development received great emphasis in Chapter 17 of Agenda 21 with many detailed prescriptions on improving capacity for integrated ocean and coastal management, as well as for specific sectors (such as fisheries, land-based pollution), small island developing States (SIDS), marine science and monitoring, climate change adaptation. Emphasis was placed as well on the development of educational facilities (such as regional centers of excellence); research facilities for systematic observation of the marine environment and disaster response; strengthening of institutions for integrated management, marine science monitoring and assessment; public participation and education. The WSSD Johannesburg Plan of Implementation also emphasized capacity development needs, but in much less detail and with no timetables, including capacity for integrated coastal area management, small scale fisheries, land-based sources of pollution, biodiversity, and SIDS needs regarding biodiversity and climate change, traditional knowledge. The Rio+20 outcome document emphasized the need for enhanced capacity-building for sustainable development and called for the strengthening of technical and scientific cooperation. In addition, capacity development and technology transfer are among the four elements in the 2011 package to be negotiated as part of the new international instrument under UNCLOS. (Balgos, Cicin-Sain, and VanderZwaag, 2015)

In the context of sustainable management of oceans, coasts and small islands, capacity development involves investment in people, institutions, and society to understand the values associated with the

resources of the ocean and coastal areas. At the individual level, capacity is needed to develop and implement policies that support integrated coastal and ocean management, as well as generate data to inform policy-making. In addition to individual capacity, building institutional capacity is required to ensure long-term gains in capacity investment. The strengthening of institutions, as well as the development of organizational frameworks, provides a mechanism for continued, adaptive governance and management. An important component of capacity is an enabling environment that needs to be established to reconsider and restructure ocean management governance and policies in forward-looking ways.

What capacity is needed in ABNJ?

The ABNJ Capacity project will carry out a capacity needs assessment to analyze existing capacity and the future/desired/needed capacity in the management of ABNJ at both national and regional levels. The assessment will be carried out at the global level, with special emphasis on target stakeholders in regions where there is considerable interest in advancing ecosystem-based management of ABNJ, such as in the Indian Ocean, Southeast Africa, Southeast Pacific, and the Pacific Islands. These regions also represent target regions for the projects of the Common Oceans Program. A targeted survey will be designed and distributed to respondents from the Global Ocean Forum national leaders network (over 110 countries), Regional Seas Program, Large Marine Ecosystems (LME) programs, and the regional fisheries management organizations (RFMOs). The survey will target senior decision-makers at regional and national levels, with an emphasis on developing countries. Questions will be designed to assess existing national/regional policies and authorities for the ABNJ, as well as the level of interest and capacity constraints in ABNJ issues. Illustrative questions that will be asked include:

- What capacity is present regarding ABNJ in the nation/region? What is the level of knowledge of national/regional leaders about: ABNJ environments and resources, including climate change effects; level of scientific understanding of ABNJ environments and resources; threats to the marine environment, especially to marine biodiversity; multiple current and potential uses of the ABNJ—e.g., shipping, fishing, submarine cables, scientific research, deep-seabed mining, tourism, carbon capture and storage; existing legal and policy frameworks at global and regional levels?
- To what extent has the country/region developed a national/regional policy/strategy on ABNJ? Which organization(s)/agencies (regional, national), if any, has/have competence regarding ABNJ?
- What types of capacity development approaches would be useful in the further development of capacity on ABNJ in the nation/region?

The results of the assessment will be used to inform and to help guide the design of the ABNJ Regional Leaders Program and the development of ABNJ training materials, as described in the next section (Balgos, Cicin-Sain and Wales, 2015).

Capacity development initiatives in ABNJ through the Common Oceans Program

Capacity development is a key component and integral part of the projects under FAO's Common Oceans Program targeting development of individual as well as institutional capacities.

The **Common Oceans Capacity Project** aims to facilitate global and regional cross-sectoral policy dialogue and coordination, improve knowledge management and outreach, and contribute to increased capacity for decision-making at various levels of ABNJ management. The project aims to 1) raise the awareness of decision-makers at national and regional levels and of the general public about ABNJ issues to spur greater understanding of and engagement in ABNJ management; 2) raise the awareness of decision-makers at national and regional levels and of the general public about ABNJ issues to spur greater understanding of and engagement in ABNJ management; 3) strengthen and broaden cross-sectoral dialogue and policy coordination in the ABNJ, especially through linking global and regional frameworks and approaches and promoting lesson learning from experiences in different regions; and 4) enhance the capacity of decision-makers, especially from developing countries, to understand the issues at stake and the processes involved in ABNJ, and to foster their participation in international/regional processes for management and coordination of ABNJ activities. Activities to be undertaken during the project include: convening cross-sectoral multi-stakeholder workshops and high-level dialogues for key decision-makers to enhance their awareness and understanding of ABNJ issues; developing two communities of practice (CoPs) that will create a network of practitioners to collectively address problems and issues in the ABNJ and to advance knowledge on these questions (see Box 2 for the questions to be addressed by the ABNJ Communities of Practice as discussed during their face-to-face meeting, 17 February 2015, FAO, Rome); and creating a public outreach network and ABNJ web portal to expand and improve efforts to inform stakeholders about the ABNJ and the Common Oceans Program). (Balgos, Cicin-Sain and Wales, 2015).

Box 2

Questions for the ABNJ Communities of Practice to address as discussed during their face-to-face meeting, 17 February 2015, FAO, Rome

1. What are the successful models of collaboration and coordination between and among regional processes in ABNJ? What are the conditions of preparedness, including human capacity, that are needed by national government and regional agencies in order to adopt and implement collaboration and coordination mechanisms?
2. What are the overlaps, similarities, and differences among the approaches in the management of ABNJ and its resources that are promoted by regional and global organizations (e.g., IMO, ISA, UNEP, CBD, FAO) and how can they be coordinated/harmonized?
3. How can the fragmented legal framework in ABNJ at the regional level be addressed (e.g. most RFMOs/RFBs don't have a mandate beyond fisheries management; other regional organizations mostly cover only environmental issues)?
4. What are good examples of convening bodies that can bring various stakeholders together at the regional level? What are the specific roles and characteristics of such convening bodies?
5. What can national government agencies do in order to raise their level of capacity regarding ABNJ? What assistance do they need in order to effectively implement environmental and sustainable development agreements in an integrated and harmonized manner at the national (and sub-national) levels?
6. How can best practices and approaches in the management of ABNJ, e.g., in the Pacific (oceanscapes), in the Mediterranean (use of MOUs), in the North Atlantic (Sargasso Sea initiative) be identified and disseminated? How can this information be managed for effective dissemination to national and regional end-users? How can these existing data depositories and clearing-house mechanisms be put to use?
7. What do national government agencies need to do in order to mainstream best practices in ABNJ into existing authorities and processes?
8. What livelihood issues and users' issues are at stake in the management of ABNJ?
9. How can the data needed in order to carry out multiple-sector area-based planning and management in ABNJ be produced?
10. What can these CoPs do to contribute useful information to the development of a legally-binding international instrument on ABNJ under UNCLOS?
11. How can it be communicated to the public, what ABNJ is and its importance (ecological, economic, and social)? How can public stewardship of ABNJ be fostered?

Under the Common Oceans Capacity Project, the **ABNJ Regional Leaders Program** was developed to strengthen the capacity of leaders from developing countries and small island developing States at the regional and national levels to better address resources and issues in ABNJ and to more effectively participate in global and regional ABNJ processes. The first session of the ABNJ Regional Leaders Program was held on 15–21 January 2015 at the United Nations in New York. Fourteen participants from national governments and/or regional organizations concerned with marine resource management from around the world were selected from a pool of 108 applicants. The course was delivered over nine days, beginning with an introductory course to ABNJ, highlighting relevant environments, uses, resources, and legal and policy frameworks, and concluding with

participation in the 9th Meeting of the 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 (BBNJ) and a side event held during the BBNJ meeting. The ABNJ Regional Leaders Program was developed and implemented by the Global Ocean Forum and University of Delaware, in collaboration with FAO, and with participation by the United Nations Division for Ocean Affairs and the Law of the Sea (DOALOS), the University of Delaware, and other organizations; supported by the Global Environment Facility (GEF); and involved a wide range of partners (Balgos, Cicin-Sain and Wales, 2015).

The **Common Oceans Tuna Project** is a global partnership initiative for capacity building and developing sustainability in tuna fisheries management in ABNJ. The project aims to carry out: 1) exchange of experience among RFMOs to facilitate global collaboration in the spirit of the Kobe process¹⁰ and the joint work of the t-RFMO Secretariats; 2) provide capacity for effective participation of developing states in regional fisheries management; and 3) contribute to increased capacity at the global level by supporting the dialogue between the conservation and fisheries management communities. The project has three components, which cover sustainable tuna fisheries management practices, reduction of IUU fishing, and reduction of fisheries impacts on ecosystems in ABNJ. Through the above activities to be conducted in collaboration with partners within the Common Oceans Programme, the project expects to be able to bring information on alternative uses and biodiversity concerns to the fisheries community; address possible misconceptions and misinformation about tuna fisheries in the ABNJ, including RFMOs; and empower the new actors with accurate information on the impacts of fisheries in ABNJ. (Anganuzzi, 2015)

The **Common Oceans Deep Sea Project** aims to achieve sustainable use of deep-sea living resources and biodiversity conservation in the ABNJ, through the application of ecosystem approach. The project, through four components, target:

1. Improved application of policy and legal frameworks;
2. Reduced adverse impacts on VMEs and components of EBSAs;
3. Improved planning and adaptive management for ABNJ deep-sea fisheries; and
4. Development and testing of a methodology for area-based planning and management.

Capacity development opportunities provided by the project undertaken in collaboration with the FAO's EAF-Nansen project, include:

1. Technical training (e.g., EAF process in pilot regions, stock assessment of deep-sea fish stocks);
2. Awareness raising and regional exchange on VMEs and components of EBSAs, multi-sector area-based planning, and implementation of policy guidance in deep-sea fisheries;
3. Hands-on workshops/on the job training, e.g., species identification; and
4. Internships and institutional and individual twinning arrangements on specific topics identified as capacity gaps. (Tandstad 2015b).

Sectoral capacity development initiatives in ABNJ

International bodies that presently exercise mandates relevant to the management and governance

of ABNJ carry out respective capacity development activities.

The standard terms of exploration contract under the International Seabed Authority requires a mandatory training programme for personnel of developing countries (Johnson, 2015a). IMO provides support to individual States upon request. IMO's Integrated Technical Cooperation Programme provides technical assistance to developing countries. Following the Standards of Training, Certification and Watchkeeping (STCW), IMO provides guidance and recommendations for training and competency of officers and masters on ships (Haag, 2015).

Capacity-building aspects relevant to the management of ABNJ have been identified by the 10th CBD Conference of the Parties (COP 10), which include: Lack of institutional, managerial, technical, scientific, human resources, and financial resources; poor understanding of capacity needs at various levels in the context of cross-sectoral management; and limited information base (lack of policy-relevant information to support decision-making; inadequate coordination of existing knowledge). In order to address those gaps, the Sustainable Ocean Initiative (SOI) was launched at COP 10 as a global platform to build partnerships and link efforts to enhance capacity to achieve the Aichi Biodiversity Targets. An Action Plan for the SOI (2015-2020) includes capacity development activities at the global, regional, and national levels. (Cooper and Stofen-O'Brien, 2015).

Key areas – multi-sector area-based planning

In view of current and future directions in area-based management initiatives in ABNJ, capacity in terms of tools and approaches as well as individual expertise, institutional capacity, and the enabling environment to implement them are needed. Area-based planning and management will require the development of a legal basis, delineation of jurisdiction, stakeholder engagement, establishment of access rights and benefit sharing, constant infusion of science-based information for policy-making, planning and management, as well as day-to-day management and enforcement (Alder, 2015).

Public education and outreach in ABNJ

The primary focus of nations regarding marine resources has historically been on their coastal zones and 200-mile Exclusive Economic Zones (EEZs), with national attention only recently expanded to encompass the ocean areas beyond national jurisdiction. However, there are a number of factors that inhibit the development of global capacity for the management of fisheries and conservation of biodiversity in ABNJ. Global ABNJ discussions have remained largely sectoral and the capacity of decision-makers and global and regional management institutions is weak, especially in developing countries, because of the lack of reliable and timely information about ABNJ issues, among other reasons. Generally, there is little coordination and dialogue among ongoing ABNJ discussions at the global and regional levels. In many cases, relevant knowledge and experience that could contribute to improved management, including sectoral knowledge and experience from management within EEZs, is not incorporated adequately into these on-going policy discussions and many stakeholders and high-level decision-makers with relevant experience and whose work deals directly with ABNJ management are not yet engaged. Often, countries do not prioritize ABNJ issues and focus resources solely on ocean issues within national jurisdiction. This lack of prioritization is most prevalent in developing countries with limited capacity. To some extent, inadequate management of ABNJ is also due to the limited availability and access to information on the status of the ecosystems and the emerging impacts of climate change; extent of the commercial and scientific

activities being undertaken; and various policy options and approaches for managing ABNJ. The lack of public outreach and awareness regarding ABNJ issues is evident, with the vast majority of the general public having limited knowledge of ABNJ issues and little appreciation of the urgent need to address pressing threats to ABNJ. Educating the general public on ABNJ issues is a huge challenge - media are not interested, ABNJ are unknown and unfamiliar to, and far from the minds of, the general public (Vallette, 2015).

Recognizing the importance of ABNJ in our daily lives, there is a need to bridge the gap between stakeholders, citizens and ABNJ specialists and decision makers. Efforts by museums and aquaria to bridge this gap could include: Showing the spectacular animals and sceneries in ABNJ; sharing the adventure of exploring the high seas; and showing the importance of ABNJ in our daily lives through concrete examples. (Vallette, 2015)

Raising public awareness will require education (sharing information), engagement (making connections), and inspiration (prompting change) among the public on ABNJ. It will involve public outreach, provision of information and tools, and building relationships with key players and stakeholders in ABNJ, through communicators including journalists, practitioners, scientists, academics, decision-makers, aquaria (Farmer, 2015).

The Common Oceans Program connects a variety of partners from governments, regional management bodies, civil society, the private sector, academia and industry to reach a common goal of sustainable use and conservation of biodiversity and ecosystem services of ABNJ. The Capacity Project will be coordinating the dissemination of knowledge generated and lessons learned from all of the ABNJ projects to stakeholders through coherent and coordinated messaging and outreach mainly through the Public Outreach Network (see Box 3 for the salient points raised at the Public Outreach Network Meeting held on 17 February 2015 during the ABNJ Workshop at FAO in Rome). It will develop synergies among the other projects in the Common Oceans Program, and synthesize and disseminate lessons learned, experiences and best practices to relevant stakeholders, including governments, organizations with competence in ABNJ, and global and regional ABNJ processes. This project will work closely with the other projects in the Common Oceans Program, with the Common Oceans Communications Team, and with IW:LEARN to ensure that the knowledge generated and lessons learned emanating from the activities of all four projects under the Common Oceans Program reach a wide range of stakeholders at global and regional levels. (Farmer, 2015).

6. EXPERIENCES, CHALLENGES AND OPPORTUNITIES IN SELECTED REGIONS

The following summarizes the experiences and lessons learned as well as the priorities and opportunities in ABNJ management in the following regions: in the South Atlantic and Indian

Ocean, North Atlantic and the Mediterranean, and in the Pacific, based on the presentations given by experts from the regions, information from the regional break-out group discussions held during the workshop, and from existing literature (reports and other publications) reviewed on the topic.

North Atlantic and the Mediterranean

Introduction

The Atlantic Ocean is characterized by high productivity on continental shelves and marine ridges and high biodiversity. The Northeast Atlantic Ocean (see Figure 1), which includes the European part of the Atlantic, is a vast area of about 13.5 million km² which covers a diverse range of environmental conditions and different ecosystems. It is a highly productive area where the most valuable fishing areas, many unique habitats and ecosystems, and the largest oil and gas reserves in Europe are found (IOC-UNESCO, 2012). The Northeast Atlantic has been exploited for food and other natural resources, transport and fossil fuel with adverse environmental effects including overfishing, marine pollution, and introduction of invasive species (Alexander *et al.*, 2015).

The North West Atlantic region (7 024 717 km² surface area) covers the continental shelf and slope areas off Atlantic Canada and New England, majority of which falls within the jurisdiction of Canada and the United States, the area surrounding St. Pierre and Miquelon is under French authority, while the Nose and Tail of the Grand Banks and Flemish Cap extend into international waters. The region, composed of a wide variety of ecosystems, from productive coastal estuaries to unexplored submarine canyons harboring a rich diversity of plants and animals, is best known for its large populations of commercial groundfish, such as Atlantic cod or haddock, although hundreds of other fishes occur there as well. Invertebrates, including lobster, shrimp and around 30 species of cold-water corals are also found in the region, which is also an important stopover site for many highly migratory species, including the blue whale, numerous seabirds, large pelagic fishes such as tunas and the leatherback turtle. Human uses include fisheries, shipping, exploration and exploitation of oil and gas; and increasingly aquaculture and tourism. Key threats include the ecosystem impacts of overfishing, bottom-impacting gear and bycatch; illegal dumping of bilge oil, and climate change-induced changes to currents and water temperatures. (Protect Planet Ocean, no date)

The Mediterranean Sea (2.5 million km² surface area) (see Figure 1) is almost a closed basin, connected to the Atlantic through the Strait of Gibraltar. For this reason, the Mediterranean Sea faces eutrophication and pollution that threaten waters that are high in biodiversity but low in productivity, with 67 percent of species specific to the region and is home to 6 percent of the total world fauna in less than 1 percent of the total ocean area. The introduction of invasive species is also a major threat to biodiversity in the region. Vulnerable species include red corals, sea birds, sea turtles, monk seal, cetaceans, sharks and rays (Bernal, 2015).

These regions have well-established environmental governance structures involved in the management of ABNJ in the North Atlantic and the Mediterranean, including the Northeast Atlantic Fisheries Commission (NEAFC), the Northwest Atlantic Fisheries Organization (NAFO), the General Fisheries Council for the Mediterranean (GFCM), the Oslo-Paris Convention on the Protection of the Marine Environment in the North-East Atlantic (OSPAR) Commission, and the UNEP Mediterranean Action Plan Regional Activity Centre for Specially Protected Areas. Other regional organizations that are active in the region are listed in Box 4.

In the Northeast Atlantic, NEAFC employs a number of management measures, which include total allowable catch (TACs) and allocation, technical measures, control and enforcement, and protection of VMEs (Asmundsson, 2015). In the Northwest Atlantic, NAFO uses working groups to better improve catch reporting (to generate more accurate data on which to base scientific advice and fisheries management decisions); develop risk-based management strategies applying the precautionary approach to the reopening of fisheries; identify VMEs and adopt their closures; and develop an Ecosystem Approach Roadmap (Kingston, 2015). In the Mediterranean, the GFCM is mandated to adopt spatial management measures in ABNJ through the establishment of Fisheries Restricted Areas (FRAs) that involve fisheries restrictions (limit or prohibit certain fisheries/gears) within a delimited area (Bernal, 2015).

The OSPAR Commission has established six new conservation areas in international waters in the North Atlantic, including the Charlie-Gibbs Marine Protected Area (WWF and BFN no date). In the Mediterranean, RAC/SPA and MedPAN have been working alongside their partners (IUCN, WWF, local NGOs, research organizations) to establish an ecological network of MPAs to protect at least 10 percent of the marine and coastal waters which is representative of the Mediterranean's diversity and made up of ecologically interconnected and well managed MPAs, in accordance with the latest guidelines from the CBD and the Barcelona Convention. Since 2008, 23 MPAs have been established in 10 countries amounting to an additional area of 6 754 km² which represents close to a 7 percent increase of the protected surface area in 5 years in comparison to the 2008 protected surface area of 97 410 km², or 4 percent of the Mediterranean (MedPAN and RAC/SPA 2012). Although, none of these areas are in international waters, these MPAs are important in light of the highly interconnectedness of ocean zones and the almost closed form of the Mediterranean Sea.

There are 65 international treaties regulating the various maritime activities in the Mediterranean Sea and the Black Sea, 29 of which are most relevant the Mediterranean Sea, with only one signed by all the coastal states (Suarez de Vivero, 2015).

The Sargasso Sea, although not covered by discussions held by breakout groups at the Workshop, provides some lessons learned in the management of ABNJ as presented in plenary at the workshop (see Freestone, 2015 and Box 5).

Major issues and challenges facing management of fisheries, biodiversity and other ABNJ uses in the North Atlantic and the Mediterranean

It is clear that the North Atlantic and the Mediterranean are quite different environments although they have certain commonalities. How much of the Mediterranean could count as ABNJ and how the ABNJ in that region could be compared with the North Atlantic have to be taken into consideration.

The main issues in the North Atlantic and Mediterranean are the overexploitation of fisheries and pollution which extends from the EEZs to ABNJ. These issues, in turn, pose significant impacts on biodiversity in these regions, and exacerbated by the lack of information and monitoring in the high seas.

In comparison with other regions, the North Atlantic and the Mediterranean lead other regions in terms of management measures in place. However, the North Atlantic and the Mediterranean still

face a host of implementation issues.

- The EAF approach has not been operationalized from theory to practice at the regional level. The fisheries are a leading example in the implementation of the ecosystem approach but there is a need to further develop common fisheries and biodiversity agendas among regional organizations. NAFO is moving forward with EAF implementation through the development of the NAFO Roadmap to Ecosystems Approach to Fisheries, which aims to lay out the organizing framework to develop an EAF for NAFO. The NAFO Roadmap is based on the concept of Integrated Ecosystem Assessment, which is a tool for use in integrating scientific knowledge and analysis with ecosystem management actions within the framework of ecosystem-based management (Levin *et al.*, 2009; ICES, 2013). The Roadmap is not a fixed plan; as its name indicates, it is a guiding set of ideas which evolve as it is developed and implemented, providing flexibility for addressing gaps (NAFO, 2014).
- Sharing information between and among regional organizations to implement the ecosystem approach is important for ABNJ. Understanding what the risks are and what the different human activities that pose adverse impacts on the environment and resources in ABNJ is needed. Although it appears that there aren't that many human activities within ABNJ, this does not make it easier to implement the ecosystem approach.
- There is complexity in ensuring that baseline data for management is in place, in communicating and coordinating data and information, and in using data and information for control and enforcement. There are examples where control and enforcement are good, such as MCS in fisheries, but new technologies are needed in other areas.
- Developing the political will for making ABNJ a priority for governments compared to other pressing issues is clearly a challenge.
- Despite the existence of relatively advanced institutional frameworks in these two regions, tensions and dynamics in both regions remain, e.g. legal uncertainty related to mixed jurisdictions (political jurisdictions where two or more institutional frameworks apply) in the Mediterranean, tensions and different agenda among the contracting parties for the OSPAR Convention.
- There are imbalances in ABNJ capacity at national levels and within regions.

Knowledge and information that exists within different sectors and organizations to address these challenges

The North Atlantic and the Mediterranean are relatively well-placed in terms of ABNJ knowledge and information that exists, compared to many other regions.

- There is access to long-term series of high quality data. For example, in NAFO, they have Joint Fisheries Commission and Scientific Council Working Groups who are addressing the need for more accurate catch reporting data on which to base scientific advice and fisheries management decisions (Kingston, 2015). However, the availability and quality of data depend on specifics, on what information is needed and what will it be used for.
- There appears to be sufficient strategic information to understand trends, e.g., in long-term pollution data. However, existing datasets are not necessarily relevant to issues in ABNJ since the datasets have been primarily drawn together from coastal and marine regions, not much from deeper and offshore waters in ABNJ.
- There are quality assurance mechanisms that have been well used. The ICES and Scientific Committees of the NAFO and GFCM are useful and important in terms of knowledge and

information.

- Both regions have a track record of monitoring and assessment to inform decision-making over a long time and have used resources to take advantage of global datasets to add to that information. Examples of these resources include: 1) EMODnet (European Marine Observation and Data Network), a consortium of organisations assembling European marine data, data products and metadata from diverse sources in a uniform way; 2) MAPAMED (Marine Protected Areas in the Mediterranean) - a GIS database; and 3) MedMIS an online information system for monitoring invasive non-native species in Mediterranean MPAs.

Best practices in ABNJ

At the workshop, best practices have been identified in fisheries management, biodiversity conservation and management of other uses in ABNJ; in sectoral collaboration in ABNJ; and in linking global, regional and national initiatives in ABNJ, as follows:

- There are institutional frameworks in place in both regions which provides regional organizations the ability to make binding hard law, such as RFMO/RSC decisions and recommendations for improving the level of synergy towards common strategies. Examples of these frameworks are the Convention on the Future Multilateral Cooperation in North-East Atlantic Fisheries (NEAFC), the NAFO Convention, and the Bonn Agreement.
- The EU Directives, which provide targets, standards, and guidance to member countries in ocean management and governance, such as the Marine Strategy Framework Directive, Marine Spatial Planning Directive, and the Atlantic Action Plan, provide another set of best practices applicable to ABNJ.
- Both regions have been strong in establishing a case for the protection of ABNJ based on scientific information, e.g., the long-term data series for the Sargasso Sea, which have been used in establishing management measures in the area, NAFO/NEAFC datasets, and the OSPAR quality status reports.
- There are successes in maintaining sustainable fish stocks, recovering fish populations, reduction in IUU fishing that can be identified in these regions. Examples include the use of technical (mesh size limitations, seasonal closures for spawning, conversion factors, fishing gear limits), and control and enforcement measures (at sea inspections, VMS system, Port State control, control of non-contracting Parties, and IUU lists) (Asmundsson, 2015b).
- The use of long-term management plans, such as the ACCOBAMS plan, is another best practice that can be reported from these regions. The ACCOBAMS (Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area) is a cooperative tool for the conservation of marine biodiversity in the Mediterranean and Black Seas, whose aim is to reduce threats to cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals (ACCOBAMS no date).
- These two regions have been proactive in putting forward precautionary approaches, for example, precautionary area-based measures such as VMEs, MPAs, and Specially Protected Areas of Mediterranean Importance (SPAMI).

Gaps to be addressed in the Management and Governance of ABNJ

Among the management gaps identified in the two regions is the lack of sustainable and secure

funding, which is needed to fill in all the other gaps in resources and mechanisms that have been identified, including the capacity to carry out existing and implement new measures. These gaps include:

- Specific data requirements, e.g. human uses (other than fisheries) and their impacts, deep-sea habitats and species, invasive species, Mediterranean VMEs, and socio-economic data in particular;
- Modeling cumulative impacts and interactions between human activities as well as the methodology to account for the impacts;
- A comprehensive legal regime as well as improved implementation of existing measures;
- Fisheries-specific gaps including agreements on stock allocations and future allocations on other stocks that are not currently included within the RFMOs' purview;
- Communication and coordination within administrations; and
- Marine spatial planning or maritime spatial planning within ABNJ.

Future activities and research

There were differences in priorities between the two regions, although there are common ones considered important by both regions, including:

- Devising joint funding strategies and understanding the scope of financial instruments;
- Strengthening inter-sectoral cooperation/collaboration. For example, the use of inter-operable databases promoting joint work (compare NAFO and NEAFC/OSPAR) has started in some areas but still needs to mature;
- Improvement of the legal framework – both existing and new – acknowledging these regions are already in a relatively strong position;
- Enabling stronger integration in building future scenarios, e.g. making use of EBSA descriptions; and
- Developing a common understanding of ecosystem function and structure vis-à-vis biodiversity conservation and maximum sustainable yield.

The Pacific Region

Introduction

The Pacific is a large area, covering more than 155 557 million km², about 28 percent of the planet (CIA, no date). Given the size of the Pacific, ocean resources are a major area for economic development - shipping provides low cost transportation between East and West, over 60 percent of the world's fish catch came from the Pacific in 1996, and extractive resources (oil and gas, minerals, sand and gravel) are vital for the energy and construction industries (CIA World Factbook, no date). The large size of the Pacific has led to regionalism and differing methods to manage resources and govern the ocean space; however, examples for cooperation and coordination can also be found. The focus for this summary will be the Pacific Islands region and the Southeast Pacific.

Pacific Islands region. The Pacific Islands Region makes up more 40 million square kilometers (Pratt and Govan, 2010). Many nations have more ocean than land area (Brierley, 2015), making ocean governance essential to these nations. The fishing, mining, tourism, and shipping industries are vital for transport, culture, food security, and livelihoods. Most of the water and fishery resources are in national jurisdiction (Norris, 2015), meaning EEZ management and regional cooperation for the

pockets of ABNJ is essential. ABNJ plays an important role for migratory species, key for successful tourism (Brierley, 2015). Regional effort and unity are needed for management of resources within and beyond areas of national jurisdiction (Brierley, 2015). Stakeholder inclusion is essential as is collaboration (Brierley, 2015).

There are many agencies involved in this region, ranging from political groups to environmental and fisheries focused groups, which has led to many areas for coordination and cooperation within and outside the region. A source for this coordination and cooperation is the Pacific Islands Forum. The Pacific Islands Forum, founded in 1971 and based in Suva, Fiji, is a political grouping of 16 States¹¹ whose mission is to effectively implement Leaders' decisions for the benefit of the people of the Pacific. By providing policy advice and guidance, assistance and coordination, and support for meetings and working groups, the Forum's goals are to "stimulate economic growth and enhance political governance and security for the region, through the provision of policy advice; and to strengthen regional cooperation and integration through, coordinating, monitoring and evaluating implementation of Leaders' decisions" (Pacific Islands Forum Secretariat, no date). The Forum Secretariat coordinates and implements the Framework for Pacific Regionalism, the principle policy framework for Pacific, which features inclusive political dialogue, key values, and objectives of sustainable development.

The number of Regional Fishery Management Organizations (RFMOs) that manage ABNJ resources has increased in the last five years, with two RFMOs coming into force recently and one more in the North Pacific that should come into force shortly. These additions greatly increase the coverage of RFMOs for demersal species. RFMOs have been changing rapidly over the last decade, with new pressure from the global community and new focuses on reducing and mitigating impacts from the fisheries, as well as new partnerships with other regional organizations from different sectors. The Pacific Islands Forum Fisheries Agency (FFA) works to strengthen the national capacity of its 17 members¹² and obtain regional solidarity for the management, control, and development of tuna fisheries, through enforcement, sharing of information and assets, and taking a common position in international fora. The Nauru Agreement¹³, implemented and coordinated by FFA, sets terms and conditions for tuna purse seine fishing licenses and has led to management at the sub-regional level.

Other organizations involved in the region include: Commission for the Conservation of Southern Bluefin Tuna (CCSBT - www.ccsbt.org), Secretariat of the Pacific Community (SPC - www.spc.int/), Secretariat of the Pacific Regional Environment Programme (SPREP - www.sprep.org/), South Pacific Forum Fisheries Agency (FFA - www.ffa.int/), South Pacific Regional Fisheries Management Organization (SPRFMO - www.sprfmo.int/), Western and Central Pacific Fisheries Commission (WCPFC - www.wcpfc.int/).

Southeast Pacific. The Southeast Pacific region comprises of the entire Pacific coast of South America, from Panama to Cape Horn, with a coastline of 16 000 km (UNEP, no date). There is a diversity of ecosystems in this region, ranging from coral reefs, mangrove forests, kelp forests, wetlands, beaches and dunes, open ocean, and islands (UNEP, no date). Two Large Marine Ecosystems are present in this region, the Humboldt Current and the Pacific Central American Coastal, and fishing grounds off the South American coast are some of the most productive in the world (UNEP, no date). Issues in the region include coastal and marine degradation from pollution,

habitat destruction and species loss, and overexploitation of resources (UNEP, no date).

The Permanent Commission for the South Pacific (CPPS) operates as a coordinating body for Member States¹⁴ and other agencies of the international community to ensure a healthy and resilient Southeastern Pacific for present and future generations. Its mission is to “coordinate and promote maritime policies of Member States for the conservation and responsible use of natural resources and environment for the benefit of comprehensive and sustainable development of their peoples” (CPPS, no date). CPPS also implements the South-East Pacific Action Plan¹⁵, adopted in 1981 and focuses on implementation of existing legal instruments, developing transboundary pollution monitoring and control programs, protection of threatened species, prevention of invasive species, and public education and awareness (UNEP, no date). Some of the other projects in which CPPS is involved includes: participation as observers in the ABNJ Working Group¹⁶ as well as in regional fishery organizations; a pilot project on “Partnership on Regional Ocean Governance;” GEF program “Global Sustainable Management of Fisheries and Conservation of Biodiversity in Areas Beyond National Jurisdiction;” vulnerable marine ecosystem (VME) and ecologically or biologically significant areas (EBSA) planning; Action Plan for the Conservation and Management of Sharks, Stingrays and Chimeras in the Southeast Pacific; small scale fisheries and gender; reducing marine litter; SPINCAM Project – Governance and Planning Management and Decision Making in the Integrated Management of the Coastal Zone; tsunami warning systems; and creation of marine protected areas. This diversity of work has resulted in much to share with other organizations as well as much to learn from those organizations.

The Inter-American Tropical Tuna Commission¹⁷ (IATTC) was established “to ensure the long-term conservation and sustainable use of tuna and tuna-like species,” as well species caught as by catch¹⁸. The commission maintains a database of authorized vessels or known to fish in the eastern Pacific for tuna and tuna-like species. The IATTC is also the secretariat for the Agreement on the International Dolphin Conservation Program (AIDCP).

South Pacific Regional Fisheries Management Organisation¹⁹ (SPRFMO) is also involved in the region, tasked with long-term conservation and sustainable use of fishery resources of the South Pacific, as well as the marine ecosystems of those resources. SPRFMO has a Commission with 13 Members as well as Cooperating non-Contracting Parties²⁰. Fishery resources for SPRFMO is a wide definition, covering all fish, including molluscs, crustaceans, and other living marine resources as decided by the Commission, but does have some exclusions, such as highly migratory species, marine mammals, marine reptiles, and sea birds (SPRFMO, no date).

Issues/challenges facing management of fisheries, biodiversity, and other ABNJ uses in the region

Fisheries are a great resource of the Pacific, and some species are trans-Pacific, meaning there is overlap areas for highly migratory stocks. Different management styles of RFMOs need to be harmonized, while taking into account different sub-regional priorities, and there is a need to ensure stronger and more effective linkages between RFMOs and in the Pacific. These linkages are essential to more effective management of ABNJ and associated resources. There are examples of existing harmonization and joint work, such as memoranda of understanding²¹ (MoU) between the Western Central Pacific Fisheries Commission (WCPFC) and IATTC and joint work on stock assessments between the Secretariat of the Pacific Community (SPC) and IATTC, which can be

built upon and expanded. The MoU establishes consultation, cooperation, and collaboration for exchange of data and information; research related to stocks and species of mutual interest, including stock assessments; and conservation and management measures for stocks and species of mutual interest. This cooperation is built upon reciprocal participation in meetings; information sharing; harmonization and compatibility of management measures, including those related to monitoring, control, and surveillance; and exchange of meeting reports, information, research data and results, project plans, documents, and publications. The MoU also establishes a consultative meeting between the Secretariats of WCPFC and IATTC to review and enhance cooperation between the two bodies.

Another challenge is the compatibility of management regimes, which can contribute to confusion and conflict with distant water fishing nations and coastal States, and between RFMOs and other interests. There are difficulties in sectoral cooperation and coordination and a need for sectoral collaboration at all levels, national through international. Clear and open dialogue is required between fisheries organizations and interests within these organizations, including committing to public-private partnerships. Better dialogue between fisheries and other organizations including those charged with marine biodiversity is also important. Examples of this better dialogue is cooperation between CPPS and IATTC or between South Pacific Forum Fisheries Agency (FFA) and the Secretariat of the Pacific Regional Environment Programme (SPREP) in the context of the Council of Regional Organisations in the Pacific (CROP). There is also a need to better integrate non-fish species into management, including by allocating time and financial resources for whole management. This integrated management needs to take into account not only tuna, but seabirds and other species as well.

Other issues/challenges include: capacity; cost of monitoring and evaluating in ABNJ; national level capacity to engage across sectors; integration between fisheries and other uses, such as deep sea mining; integrating non-fish species into fisheries management; marine pollution; maritime boundary disputes in some ABNJs in the region, and climate change.

Existing knowledge and information from different sectors and organizations that can be used to address the issues/challenges

Lack of knowledge is not always the issue for the Pacific. It is often the lack of coordination, awareness, and sharing of data. This is often compounded by lack of impetus or incentive to share information between organizations. Flag States keep data and there is little to no sharing across regions or sectors. Industry often holds better information (e.g. bathymetric data) than governments/IGOs, but this information is often guarded. Cumulative data is available at a macro scale, but information on a finer scale, such as for stock assessments, is not. Information used for one purpose (e.g. maritime boundary delineation or geological surveys for the seafloor in relation to mining) may be useful for other purposes, but is not always shared, sometimes unintentionally. Information is key for broader and more effective management, and sharing of data would enhance and improve cross-sectoral management in ABNJ. Information on species other than fish species (for example deep sea species, large mammals, and migratory species) is often limited and should be strengthened.

Additionally, information on climate change impacts for fisheries and biodiversity is limited, especially in ABNJ, and continued work is required. The SPC Climate Change and Fisheries Study²²

could serve as a useful model for other areas of the Pacific region and globally. This study is aimed at providing policy makers and managers in the Pacific Islands with information on how climate change may affect fisheries, employment, and national revenue. This project includes vulnerability assessments on Pacific fisheries to estimate effects of climate change on fisheries and aquaculture, as well as an evaluation on changes to ecosystems and habitats. Advice on the implications of climate change, adaptation and management measures, priorities for development assistance, and capacity for mitigation will be provided as part of the project.

Best practices in the region in terms of fisheries management, biodiversity conservation and management of other uses in ABNJ; sectoral collaboration in ABNJ; and linking global, regional, and national initiatives

The IATTC Agreement on the International Dolphin Conservation Program (AIDCP) is a best practice for the region. The AIDCP aims to reduce and eliminate dolphin mortality, as well as ensuring the long-term sustainability of the tuna stocks and related marine resources in the area, by using ecologically sound techniques and taking into account the complex relationships of ecosystems (IATTC, no date). The agreement involves NGOs, governments, and private sector collaboration, and has resulted in increased dolphin numbers and protection status.

Mechanisms for collaboration within the Pacific Islands Forum are another best practice. The Pacific Oceanscape Framework, endorsed by the leaders of the Pacific Island Forum, focuses on a holistic approach to conservation management, highlighting regional collaboration and national commitments. The Framework has three components – Pacific Ocean arcs (aimed at development of marine protected areas), climate change and ocean security (aimed at recognizing emerging issues of impact to the ocean), and learning and leadership (cross cutting initiative to support research, learning, and leadership). The CROP (cross-sectoral technical oversight) and the Marine Sector Working Group (MSWG) for regional technical collaboration are other examples of best practices related to collaboration. The CROP, is a collective body of nine intergovernmental organizations²³ working towards sustainable development in the Pacific Region through cooperation, coordination, and collaboration. The CROP is a coordinating mechanism for regional organizations, and also serves as an advisory body. The MSWG was established between CROP and other organizations to enhance cooperation and address ocean health, marine ecosystems, and resources.

FFA's Vessel Day Scheme²⁴ (VDS) – a system to manage catch where vessel owners can purchase and trade fishing days at sea for Parties to the Nauru Agreement – was developed by member countries and has led to sustainable stock management and self-reliance for SIDS by reducing the catches of target tuna species and increasing returns from distant water fishing nations. The VDS works to constrain and reduce the target tuna species. Member States collaborate to manage the tuna stocks within national jurisdictions, then access fees for fishing within national waters of the Member States are paid by distant water fishing nations, increasing returns to Member States.

The Niue Treaty²⁵, also administered and supported by FFA, was established for cooperation and sharing of information, as well as joint enforcement action. The treaty is concerned with monitoring, control and surveillance of fishing, and includes procedures for penalizing vessels caught fishing illegally as well as sharing information on vessel position and speeds and which vessels are fishing without a license.

Other best practices: The South Pacific Regional Fisheries Management Organisation (SPRFMO) has undertaken benthic assessments. Finally, the MoU between WCPFC and IATTC for cross endorsement of observers is another best practice. These best practices within the Pacific have relevance for the management of ABNJ; however, the lessons learned from these best practices need to be better distilled and communicated within the Pacific and globally.

Gaps to be addressed in order to achieve effective management of fisheries, biodiversity conservation, and other uses in ABNJ

Scientific knowledge and information gaps to be addressed include: lack of information on non-tuna species, such as marine mammals; lack of information on the implications of emerging uses, such as deep sea minerals, relevant to both EEZ and ABNJ and characterized by high levels of uncertainty and low levels of knowledge on biodiversity of the deep sea; benthic habitats, details are locked in industry and there is little sharing except with flag states, there is a need to develop a knowledge base; ocean acidification impacts on fisheries and biodiversity; ecosystem services and relationship with stocks, fundamental to better application of ecosystem management approaches. With fisheries being such an important part of the Pacific, addressing the impacts of climate change on the region is especially important. This includes impacts on fisheries and biodiversity, but also on boundaries and non-tangible impacts as well.

Other gaps discussed include the following: In-region capacity is limited, and specific technical training is often unavailable; there is limited national capacity to engage across sectors and ministries; retaining/attracting qualified staff within national agencies is an issue within Pacific island countries as is the availability of specialists within the region; issues are often linked with effective governance (or lack thereof), including institutional capacity; and lack of incentives to attract and retain the best quality staff in fisheries and biodiversity.

There is a question of whether universities in the region have the capacity to train individuals to fill these needed gaps. Broader environmental programs have been growing, but specific degree programs are often not available. Such programs need to be available in country and structures to build capacity must be developed. In this regard, looking to other regions could provide an example of how to build capacity as well as retain/attract qualified staff. Additionally, there is a need for more capacity in regards to monitoring and surveillance.

Key areas for future activities and research that could fill identified gaps

Building better cross-sectoral linkages, looking to other sectors to find out what they can do to resolve urgent actions, and building cooperative frameworks is a key area for the future. There is much information that currently exists and many programs/activities within the region which could benefit from enhanced cooperation and cross-sectoral linkages. There are many activities not integrated or considered in the planning of other activities. A future area of work is to get more integration overlays, including marine mammal movements, global ocean observation (GOOS), seabirds, by-catch/non-target species, boundary gaps, and climate change modeling, in order to incorporate multiple activities in the planning process of other existing or new activities. Climate change will have a large impact on the Pacific. Future research needs to be done on how to accommodate for shifting resources due to climate change. National level capacity is often limited. This is a barrier to ensuring effective management of fisheries and biodiversity issues and also to

integrate cross-sectorally. There is a need to build up tailored “home grown” capacity initiatives such as with and through the University of the South Pacific in the Pacific Islands region. Looking inter-regionally for lessons, including on capacity building, is an activity for the future. Finally, existing information needs to be shared better and distilled into policy relevant advice, and there needs to be better opportunities for sharing of such information and advice.

Southeast Atlantic and Indian Ocean

Introduction

Southeast Atlantic. Angola, Namibia, and South Africa are the three countries which border the Southeast Atlantic (FAO, no date). Included in this region are several important topographic features targeted by deep-sea fisheries, including the Mid-Atlantic Ridge, Walvis Ridge, Valdivia Bank, Meteor Rise, Agulhas Ridge, as well as seamounts (FAO, no date). Expanding the region to central and north Africa, the coastline from Mauritania to South Africa is just over 14 000 km (UNEP, no date). Due to the diversity of ecosystems, the highly productive waters support fisheries, tourism, mineral exploitation, and oil extraction. Rapid modernization of African countries puts these ecosystems, as well as livelihoods, at risk from pollution and unsustainable use.

SEAFO²⁶ is the first post UN Fish Stocks Agreement RFMO for straddling and discrete stocks (Van Zyl, 2015). The Convention came into force in 2003 and has the aim of long-term conservation and sustainable use of fishery resources (Van Zyl, 2015). SEAFO has measures²⁷ to protect Vulnerable Marine Ecosystems (VMEs), including through 11 area closures, the Exploratory Fishing Protocol for New Fishing Areas, gear measures, coral/sponge by-catch thresholds, and VME Encounter Protocols, as well as measures to protect the deep-sea environment, including reducing incidental by-catch, banning gillnets, and TACs for five species (Van Zyl, 2015). Contracting parties are Angola, the European Union, Japan, Republic of Korea, Namibia, Norway, and South Africa.

The Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention²⁸) provides a legal framework for all marine-related programs and has a convention area from Mauritania to Namibia²⁹. The Convention came into force in 1984, and works to support the control of pollution and identify environmental management issues. There are three large marine ecosystems (LME) in the convention area: the Guinea Current LME³⁰, the Canary Current LME³¹, and the Benguela Current LME³².

The Fishery Committee for the Eastern Central Atlantic (CECAF³³) promotes the sustainable use of living marine resources through management and development of fisheries and operations³⁴. Established by FAO in 1967, the area of competence is the western side of Africa, from Morocco to Angola (CIA, no date). The committee works to encourage and coordinate research; promote collection, exchange, and dissemination of data and information; establish regulatory measures; provide monitoring control and surveillance advice; and coordinate training.

Other organizations in the region include the International Commission for the Conservation of Atlantic Tunas (ICCAT³⁵) and the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT³⁶).

Indian Ocean. With an area of 68 556 million sq km (roughly five and a half times the size of the

United States) and 68 526 km of coastline, the Indian Ocean is the third largest ocean in the world (CIA, no date). Sixty five million people live within 10 km of the coast (Waruinge, 2015). Natural resources in this area include oil and gas (it is estimated that 40 percent of the world's offshore oil comes from this region), polymetallic nodules, fish, as well as sand and gravel (CIA, no date). This region is especially important for shipping, providing a major route for the shipping of petroleum and petroleum products from the Persian Gulf and Indonesia (CIA, no date). Fisheries play a large role in this region, supplying 14 percent of the global marine fish production (Yadava, 2015). Pollution, changes in marine biodiversity, and lack of governance integration for an ecosystem approach are all issues for this region (Yadava, 2015).

Within the Indian Ocean is the Bay of Bengal sub-region, consisting of India, Sri Lanka, Bangladesh, Myanmar, Thailand, Indonesia, and the Maldives (World Bank, 2014). While poverty is high and human development is low, fisheries are a vital source of income and food security for the region (World Bank, 2014). Inshore fisheries are already developed in the region, with offshore fisheries developing in Sri Lanka and the Maldives (World Bank, 2014). Fisheries have become overexploited and the availability of fish resources has declined and effort has increased, causing fisheries to move further offshore and non-traditional offshore fisheries nations are focusing offshore (Yadava, 2015). Expansion of these fisheries within national jurisdictions and in ABNJ could add to regional development; however, the status of management and fisheries performance were both rated low for the region, as new technologies have gained a foothold and fishing effort has increased, calling into question the sustainability of these fisheries (World Bank, 2014). These low ratings and increasing fishing pressure provides opportunities for more effective management schemes to contribute to the growth of the region while ensuring the sustainability of the fish stocks. While countries within the region have not developed offshore stocks, distant water fishing fleets do exploit these stocks; meaning an understanding of how national management schemes are affected by ABNJ fisheries is needed (World Bank, 2014).

The Western Indian Ocean (WIO) sub-region includes Somalia, Kenya, Tanzania, Mozambique, South Africa, Madagascar, Seychelles, Comoros, and Mauritius (UNEP/Nairobi Convention Secretariat, 2015).

Approximately 60 million people live in the coastal zone of the WIO, and many of these people consider the marine environment of particular economic, social, and cultural significance (UNEP Nairobi Convention Secretariat, 2015). Biodiversity is high in this region. There are 11 257 marine species recorded in the Western Indian Ocean (WIO), about 13 percent are endemic (Waruinge, 2015). There are over 900 seamounts in the WIO and over 40 Ecologically and Biologically Significant Areas (EBSAs) have been described (Waruinge, 2015). The low incomes of these countries as well as increasing pressure from population growth and economic expansion has put a strain on the coastal zone, resulting in overfishing and pressure on marine biodiversity from habitat degradation to resource extraction (UNEP Nairobi Convention Secretariat, 2015). Human activities, including shipping, oil and gas extraction, coastal tourism, and bioprospecting, present opportunities for economic growth, but also add to the challenge of coastal management (UNEP Nairobi Convention Secretariat, 2015). Limited human and technical capacity has limited the ability for this region to formulate national laws and policies in response to international commitments and has also led to ineffective coordination and cross-sectoral governance (UNEP/Nairobi Convention Secretariat, 2015).

Fisheries in the Eastern Indian Ocean had a total catch value of 1.1 billion USD in 2006 (total catch of 1 030 000 tonnes) (Yadava, 2015). Since 1960, stocks have moved from mostly developing to mostly exploited or overexploited, with five stocks collapsed (as of 2006) (Yadava, 2015). There are 2 200 species of fish found in the WIO, representing 83 percent of all known fish families (Waruinge, 2015). Tuna and shrimp from the Indian Ocean are caught by fishing fleets from Russia, Japan, South Korea, and Taiwan (CIA, no date). The WIO generates 4 million tonnes of fish per year (5 percent of the global industrialized catch) (Waruinge 2015). The production of fish and fish products has risen in the past decades from 0.861 million tonnes in 1950 to 11.2 million tonnes in 2010 (Waruinge, 2015). Even though fisheries play a large role in the economy and livelihoods of people in the region, there are many unknowns and undocumented issues. Some of these unknowns and issues include the ecological impacts of trawling, an understanding of trophic interactions, including predator removal; the link between pelagic fisheries and environmental health; the vulnerability of deep-sea fish stocks to overexploitation; and the vulnerability of deep-sea habitats to physical damage (Waruinge, 2015). There are also difficulties in managing distant water fisheries and a limited knowledge base on fish populations, habitats, and ecosystems (Waruinge, 2015).

Organizations and agreements operating in the Indian Ocean include Regional Seas Programmes (Nairobi Convention), the Bay of Bengal Programme, as well as tuna and fishery organizations (South Indian Ocean Fisheries Agreement (SIOFA), the Southwest Indian Ocean Fisheries Commission (SWOIFC), and the Indian Ocean Tuna Commission (IOTC). The Agulhas and Somali Current Large Marine Ecosystems (ASCLME³⁷), a UNDP/GEF project, was also operational in the region until 2014. Nine countries³⁸ worked to provide initial baseline data to learn about the oceanography and marine resources of the region. Although the project is no longer operational, the project worked to strengthen capacity and management in the region.

The Nairobi Convention³⁹ (Eastern African Action Plan) was established in 1985 as part of the UNEP Regional Seas Programme to help conserve, protect, and manage the marine environment in Eastern Africa. With tourism being a vital industry for Western Africa and Indian Ocean, there was a need to protect the environment from destruction, degradation, over-exploitation, especially from rapid industrialization, population growth, and oil and gas development (UNEP, no datec). Goals of the Convention include: promoting sustainable development and management, prevent pollution, strengthen regional collaboration, improve training and technical development, and assist with maritime emergencies (UNEP, no datec). The Parties to the Convention are Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, Tanzania, and South Africa.

The Bay of Bengal Large Marine Ecosystem has an area of 6.2 million km² (Yadava, 2015). The Bay of Bengal Programme⁴⁰ was established in 2003 under the BOBP-IGO Agreement and works to provide technical and management advisory services to ensure socio-economic well-being and ecological security (World Bank, 2014). Because fisheries employ 4.5 million people in this area, the World Bank/Bay of Bengal Programme ABNJ Project aims to establish sustainable and productive fisheries for migratory species (such as tuna) and develop a case for public-private partnerships. The programme has also developed a regional and national management plan for sharks and associated species, developed a framework for joint management of the Gulf of Mannar, and has worked to develop national plans for the Indian Shad fisheries (World Bank, 2014).

SIOFA⁴¹, established under FAO, held its first session in 2005. Its objectives include conservation

and sustainable use of fishery resources (fish, molluscs, crustaceans, and sedentary species, with some exceptions) and promote sustainable development of fisheries (FAO, no dateb). Members are Australia, Cook Islands, European Union, France, Japan, Republic of Korea, Mauritius, and Seychelles.

SWIOFC⁴², established in 2004 by the FAO, is responsible for all living marine resources. The main objective is to “to promote the sustainable utilization of the living marine resources of the Southwest Indian Ocean region, by the proper management and development of the living marine resources, and to address common problems of fisheries management and development faced by the Members of SWIOFC,” (FAO no datec). Members are Comoros, France, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Republic of Tanzania, and Yemen.

Established in 1993 by the FAO, the IOTC⁴³ is responsible for the management of tuna and tuna-like resources⁴⁴ and their environment. Decisions are binding upon Members and Cooperating non-Contracting Parties⁴⁵. Capacity building to ensure participation of all Members is required under the IOTC Agreement, and engages in activities for capacity building for data, science, and compliance. The IOTC has a number of memoranda of understanding or other arrangements to foster cooperation and exchange of data with other organizations operating in the region, including but not limited to the Agreement on the Conservation of Albatrosses and Petrels, the Western and Central Pacific Fisheries Commission, and the Commission for the Conservation of Southern Bluefin Tuna⁴⁶.

Issues/challenges facing management of fisheries, biodiversity and other ABNJ uses in the region

The demand for fish is high in the region; however, there are three challenges to fisheries management: 1) adequate scientific data is unavailable, 2) access to technology and equipment to compile the data is limited, and 3) knowledge and training on best practices and tools to identify ABNJ areas in need of protection is lacking. Overexploitation is an issue for the region, as access to adequate and reliable data to support management of trans-boundary resources is lacking (Waruinge, 2015). This is furthered by the lack of monitoring, control, and surveillance (MCS) beyond territorial waters and a limited understanding of linkages between fisheries and biodiversity at a regional scale (Waruinge, 2015). Lack of MCS can lead to illegal fishing. In the Western Indian Ocean, 229-560 tonnes of fish (value of USD206-504 million) were illegally harvested (average from 2000-2003) (Yadava, 2015). Lack of a regional management strategy for ecosystem management leads to improperly managed fisheries (for example, the crustacean and demersal fisheries are managed only at a national level and there is no regional strategy for shared or transboundary species) (Waruinge, 2015). Pollution from increasing industry and urbanization as well as changes in marine biodiversity, particularly the loss of vulnerable and endangered species, are also problems for the region (Yadava, 2015).

Other challenges included lack of development and transfer of marine technology as established under UNCLOS, promotion of international cooperation regarding marine scientific research, information sharing, and collaboration. Even though there are challenges to fisheries management, there are regions which have successful fisheries management. Capacity development can play key role in helping regions with little information and resources to benefit from sharing of experiences

and lessons learned by regions with successful fisheries management.

Many management bodies and RFMOs are sector-based, which could constrain information sharing and affect the ability for problems to be resolved across sectors in an integrated manner. States are members to different organizations or management bodies, but may not talk to each other and often have different priorities. Furthermore, issues of common ground and consensus are not easily found with different priorities and ways of framing the issues, as well as different views of what issues and challenges exist and how to address them consistently. The lack of an RFMO or existence of RFMOs lacking in capacity leads to gaps in the ability to capture data and various issues of different stakeholders. Obtaining data is an issue for some regions, but there is also the issue of having the knowledge and the resources to collect quality and accurate data. There are a few global initiatives to improve data needs, GRID-Arendal⁴⁷ for example, a non-profit foundation collaborating with UNEP, helps “facilitate free access to and exchange of information in support of decision making and to promote a sustainable future.” However, many of these initiatives lose momentum over time and there are challenges to getting cooperative measures to work. RFMOs have gone through different paths to reach UNGA recommendations; sharing between regions and developing partnerships can help move regions forward.

From a legal perspective, issues and challenges in ABNJ include delineation of the continental shelf, which has implications for management measures. Not all countries have agreed to EEZ boundaries (Waruinge, 2015). There have been some capacity development initiatives in order to improve submissions on continental shelf delineations, including regional workshops and a manual⁴⁸ developed by UNDOALOS; however, this is still an area for capacity development. Resolution of boundary issues has implications for the energy industry as the increasing demand for energy in the Bay of Bengal has furthered oil and mineral exploration (for example, discoveries in India and Myanmar, as well as initiatives by Bangladesh) (Yadava, 2015).

Under the framework of the UNFSA, the UNGA has established an assistance fund, which aims at supporting developing States in the implementation of the Agreement. Among other purposes, the Assistance Fund provides financial assistance for “Building capacity for activities in key areas such as effective exercise of flag State responsibilities, monitoring, control and surveillance, data collection and scientific research relevant to straddling and highly migratory fish stocks on a national and/or regional level” (UNDOALOS, no date). Provision of financial assistance to ensure managers and policy makers have the expertise and apply best practices in the implementation of management and governance structures such as the UNFSA is particularly important in order to achieve maximum impact. Sustainable learning and ensuring the right kind of capacity development at the appropriate time are important to setting and reaching good targets. Capacity development entails many aspects that requires specifics to be identified at different levels with various target participants. ABNJ presents a particular problem because of the lack of knowledge and information on capacity development needs. Different countries need to be engaged to address the challenge of biodiversity in ABNJ with limited information in the region.

Existing knowledge and information from different sectors and organizations that can be used to address these issues/challenges

There is existing knowledge and information on various sectors in ABNJ emanating from UN agencies, which are shared through fellowships, meetings, and other forms of outreach. UN Oceans

helps keep agencies informed on what areas are being worked on and by whom. There is some information on ABNJ available, especially on VMEs⁴⁹, and that information is accessible to a wide audience. FAO's recent launch of the VME database⁵⁰ links data providers and users to "facilitate the work of scientists and managers working on these fisheries and also promote transparency and accessibility of work that has been done in relation to VMEs to the general public." However, there is often a gap among stakeholders in ABNJ, in getting information from researchers to other stakeholders involved in ABNJ. Data integration can be beneficial at the organizational level. For example, International Seabed Authority⁵¹ (ISA) surveys on deep sea mining in the Southern Indian Ocean overlaps with the SIODFA⁵² fishing areas. Both actors have information which, if shared, can be used to further knowledge on the deep sea environment and fisheries.

Information may be available in different regions; however, packaging this information to ensure that it reaches the end-users is a problem. The challenge lies in helping policy makers understand the multi-disciplinary issues in a meaningful and impactful way. For example, IDDRA⁵³ brings together various stakeholders to improve fisheries management to try to bridge the gap between those generating the information and those using the information. Policies must also be adaptive and able to change with new scientific information and new technology. Key issues for information and knowledge include: 1) if the right information exists, it is often sectoral and fragmented; 2) each coastal State has a fisheries management policy, but implementation is a problem; 3) in the Abidjan Convention area, there is no ABNJ work in fisheries conservation; and 4) traditional knowledge needs to be promoted. Looking at gaps in information and using the precautionary approach when information is not available should also be considered.

Best practices in the region in terms of fisheries management, biodiversity conservation and management of other uses in ABNJ; sectoral collaboration in ABNJ; and linking global, regional, and national initiatives

Best practices for cooperation include FAO's EAF-Nansen Project. The project, "Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries," aims to reduce poverty and achieve food security using the ecosystem approach to develop sustainable fisheries (FAO, no dated). The surveys⁵⁴ completed by the R/V Nansen generate data, providing opportunities for data sharing, and also promotes standards for data collection and monitoring. In collaboration with the Southeast Atlantic Fisheries Organization⁵⁵ (SEAFO), the Nansen also looked at seamounts⁵⁶ as an indicator of vulnerable marine ecosystems. SEAFO introduced measures to protect such ecosystems, including closing 11 areas to all fishing activity.

Market-based incentives within the region are also a best practice. Maldivian skipjack and yellowfin tuna are Marine Stewardship Council⁵⁷ (MSC) certified. This certification⁵⁸ ensures sustainable practices were used, and reflects management standards, as "developed through consultation with the fishing industry, scientists, conservation groups, experts and stakeholders (MSC, no date). This voluntary certification meets international standards for best practices for credible certification and ecolabelling programs, including meeting the FAO Code of Conduct for Responsible Fishing⁵⁹.

The FAO/UNEP project, Securing the Foundations for Fish Food Security in a Changing Ocean⁶⁰, is a collaboration with Regional Fisheries Bodies and Regional Seas Programmes. The project aims to serve as a collaborative effort to "address the multiple threats to the sustainability of fisheries and

ensure their ecological foundations and services to enhance the contribution of fish to food security and poverty alleviation” (FAO/UNEP/Norway, 2014). The Abidjan Convention area is being used as a pilot program, testing to see how the experiences of organizations such as OSPAR and NEAFC can be applied in West Africa. If successful, the project will be implemented in other areas.

Other best practices include IDDRA's inclusion of financing in the fisheries dialogue and the ABNJ program, which can continue to compile best practices and disseminate this information and lessons learned. In the Bay of Bengal, preparing National Plans of Action⁶¹, NPOAs, for iconic and highly migratory species, such as sharks, is another best practice. The NPOA's jurisdiction is the EEZ; however, because the species are highly migratory, the impact will be seen in the ABNJ. The Southern Indian Ocean (SIO) Biodiversity Initiative⁶², which promotes management of seamount biodiversity and sustainable use, the Western Indian Ocean Coastal Challenge⁶³ (WIO-CC), which mobilizes commitment on a national and regional level to realize Convention and Action Plan goals, and the Consortium for the Conservation of Coastal and Marine Ecosystems in the Western Indian Ocean (WIO-C) are also examples of collaboration in the region (Waruinge, 2015).

Gaps to be addressed in order to achieve effective management of fisheries, biodiversity conservation, and other uses in ABNJ

While pelagic species have been well studied and a lot of information exists on these fisheries, demersal fisheries have not been well studied and more information is needed. Information needs to be gathered on species, ecosystems, benthic organisms, and microbes. EEZs and ABNJ are connected, and there is a need to better understand the movements of fisheries and resources between the two. Cumulative impact assessments are a key activity for all resources, no matter location. For the Nairobi Convention, a gap is seen in knowing what resources are there and how they can be managed. The area is rich in biodiversity, but expectations of the various countries must be balanced. In the Western Indian Ocean, a key gap to be addressed is sustainable exploitation of resources other than tuna. Additionally, the high cost of research and technology prevents many countries from having basic information of their resources.

Capacity building is another gap to be addressed. This includes building capacity to effectively participate in regional processes, especially in regard to information flow. Capacity development needs to be better defined with a clear picture of what needs to be achieved, including behavioral changes that need to be seen. Capacity building should happen in response to a needs assessment. Cross-sectoral approaches should be fostered, and governments needs to be sensitized to the issues.

Key areas for future activities and research that could fill identified gaps

Scientific gaps need to be filled, as only a few scientific research cruises in the Indian Ocean have been conducted (Waruinge, 2015). The R/V Dr. Fridtjof Nansen is undertaking a research cruise⁶⁴ in the Indian Ocean from 28 June 2015 to 10 August 2015, which may help fill some of these data gaps, especially relating to VMEs and benthic habitats. Part of the cruise will be focused on identifying marine species, as well as exploring seamounts, benthic habitats, and vulnerable marine ecosystems. The cruise will also study the accumulation of marine debris and plastics in the Indian Ocean Gyre. Furthermore, the development of on-board tools and guides for the identification of vulnerable deep-sea species as well as organizing regional workshops for awareness raising

and information sharing on VMEs and management measures could also be an opportunity to fill gaps (Van Zyl, 2015). The description of EBSAs should also be a continuing process (Waruinge, 2015). Training courses, knowledge-sharing networks, exchange visits between stakeholders on ABNJ issues (including regional workshops and capacity building), as well as sharing of expertise, experiences, and good practices can all assist in developing conservation and management in ABNJ (Cisse, 2015). Lessons learned in coastal areas could be shared and perhaps applied to open oceans and deep-seas (Cisse, 2015). While countries of the WIO have agreed to apply the ecosystem-based ocean governance approach, there is no single mechanism to support an integrated, region-wide approach (Waruinge, 2015). Greater coordination and integration of regional bodies (for example the Nairobi Convention, SWIOFC, and IOTC) is also needed to potentially expand existing mandates to include ecosystem management in ABNJ more coherently (Waruinge, 2015). There is also no platform to capture experience and draw lessons, and project initiatives/outcomes often do not translate into political initiatives as there is a lack of strong political platforms for regional cooperation (Yadava, 2015).

Lessons Learned from Regional Experiences

In summary, the following are the lessons learned as identified in the various sessions and workshop break-out groups in the regions.

North Atlantic

- International collaboration: Worked in the establishment of the Sargasso Sea Commission
- Science-Policy interphase: Aggregated scientific data used in seeking international recognition of the importance of the Sargasso Sea and in developing management arrangements
- Ecosystem approach to fisheries (EAF): The region provides successful examples in maintaining sustainable fish stocks, recovering fish populations, and reduction in IUU fishing. However, taking EAF forward requires further development of common fisheries/biodiversity agendas
- Political will: Making ABNJ a priority for governments requires scientific as well as stakeholder engagement and political strategies
- Control and enforcement: There are good MCS examples in the region but new technologies are needed to enhance implementation
- Knowledge management: Knowledge and information that exist pertaining to ABNJ may be good compared to many other regions, e.g., high-quality long term pollution data. However, their usefulness depends on what information is needed and for what purpose.
- Institutional Framework: The ability to make binding hard law and improving synergy towards common strategies are key factors, as illustrated by relevant EU Directives, providing targets, standards, guidance, e.g. MSFD, MSP Framework Directive, Atlantic Strategy and Action Plan.
- Precautionary approaches: The two regions have been proactive in the application of precautionary approaches, e.g., VMEs, MPAs, SPAMI, as well as long-term management planning (e.g. ACCOBAMS conservation plans) that can serve as models for other regions.

The Pacific

- Capacity: There is a difference between an RFMO making a decision and States implementing that agreement (Norris, 2015). Capacity is important (Kuemlangan, 2015). Lack of capacity to evaluate, monitor, and engage cross-sectorally can be inhibiting factors for management

of EEZs as well as ABNJ, as can lack of capacity initiatives tailored to the Pacific. Building up capacity can be a way forward for more effective management.

- Harmonization: Different standards for EEZ and ABNJ remain (Norris, 2015) and it is important to harmonize resources between EEZ and ABNJ. Benefits of closing high seas pockets must be shown explicitly. Additionally, harmonizing RFMO management styles and integrating other information (for example, seabirds, marine mammals, etc.) can lead to better cross-sectoral linkages and harmonization between sectors as well as ABNJ and EEZs.
- Collaboration and sharing: There is much to learn from other regions, including looking for lessons and shortcuts for integrated ocean management (Brierley, 2015). There are lessons to be learned in collaboration with environment and fishery communities (Kuemlanguan, 2015) and there must be sharing of information, both ways (Moreno, 2015). Joint programs, collaboration, cooperation, and sharing of information has already led to better management in the Pacific and continued efforts will ensure better management regionally.

Southeast Atlantic and Indian Ocean

- Coordination and information sharing: States are members of many different organizations, many of them sector based, and this can often lead to barriers in information sharing, different priorities, and difficulties in problem solving. Greater coordination and integration is needed. Regional platforms for cooperation, data exchange, and decision making can help capture experiences and lessons learned, which can then translate project outcomes into political initiatives; however, these mechanisms must be sustainable and long lasting.
- Data: There have been great strides in getting information about the region; however, most of this work has been on pelagic species (fisheries mainly). More research needs to be done on benthic habitats, ecosystems, organisms, and microbes. This information needs to be shared with countries in the region so that these countries can assess cumulative impacts and better understand the EEZ/ABNJ connection.
- Capacity building: Capacity building efforts for cross-sectoral approaches, behavioral changes, and information flow need to be specifically defined. There is a gap between those generating information and those using the information as well as issues in implementation. Efforts need to be made to build capacity for translating the scientific information into policy as well as implementing these policies (for example, each coastal State has a fisheries management policy, but there is limited data for trans-boundary management and a lack of monitoring, control, and surveillance, which leads to overexploitation)

7. CONCLUDING OBSERVATIONS

The management of marine areas beyond national jurisdiction represents a complex and challenging set of issues, of relevance to all peoples and countries. Countries and groups have varying perspectives on what are the problems and the possible solutions.

The level of understanding regarding uses, threats, and issues in ABNJ among regional entities, national governments, and the public varies considerably; in many cases, awareness and understanding are just beginning.

At the global level, the recent decision to develop a legally binding instrument on BBNJ will provide significant opportunities for inputting information on alternative options for addressing particular issues identified in the “BBNJ package.” All groups should avail themselves of these opportunities.

At both global and regional levels, the challenge is to move from solely single sector management toward more multi-sector and area-based management, building on the various roles of existing national and regional authorities.

In this regard, lessons learned from national-level experiences with integrated coastal and ocean management can be usefully applied and adapted to the special context of marine areas beyond national jurisdiction.

Ultimately, national decision-makers must come to understand the importance of ABNJ, in terms of their national interests in their EEZs, their global ocean stewardship responsibilities, and their effective participation in global and regional fora related to ABNJ.

Existing organizations at the regional level (especially RFBs, Regional Seas programs, and Large Marine Ecosystem Programs) are uniquely positioned to address ABNJ issues, linking to global discussions, and as a conduit to national authorities in each region.

Examining different regional experiences regarding ABNJ, there is significant diversity in how (and whether) regional organizations have addressed ABNJ so far in different regions.

Attempts to build collaboration across various regional entities in various regions show that this is not easy and takes time to develop. Moreover, this is especially difficult to do when asking global organizations to collaborate in specific regions.

Successful examples, however, are present in various regions and useful lessons on processes and approaches that have worked can be gleaned, for example, the creation of “collective management arrangements or agreements” involving different types of regional organizations, such as RFMOs and Regional Seas Programs. Such efforts are difficult to craft, involve much time and energy, and will ultimately need to be facilitated by new funding support.

Capacity development regarding ABNJ needs to be built among regional leaders, among national-level leaders, and among the public. Additional assessments about what type and level of capacity are needed.

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1. INTRODUCTION

The importance of the marine areas beyond national jurisdiction (ABNJ) and the Common Oceans Program

The marine areas beyond national jurisdiction (ABNJ), which comprise 64 percent of the oceans' surface, contain ecosystems with marine resources and biodiversity of great ecological, socioeconomic, and cultural importance. The ecosystems in the ABNJ include the water column and seabed of the high seas, and are located far from coastal areas, making the sustainable management of fisheries and biodiversity conservation in these areas challenging.

There is widespread agreement on the need to improve conservation of marine ecosystems and sustainable use of resources in ABNJ at both global and regional levels emphasizing the need for links between regional and global management processes in ABNJ. In various ABNJ regions of the world, such as the Northeast Atlantic, the Sargasso Sea, the Indian Ocean, and the Pacific Islands, important initiatives are underway to adapt existing regional institutional processes to move toward ecosystem-based management of ABNJ and to implement tools such as multiple-use area-based management and environmental impact assessment. Experiences, knowledge gained, and lessons learned from regional initiatives in fisheries management and biodiversity conservation in ABNJ need to be shared across regions and linked to ongoing global processes for maximum results and transformational impacts. The GEF/FAO Common Oceans Program addresses this need, among other objectives as discussed below.

The GEF/FAO program on Global Sustainable Fisheries Management and Biodiversity Conservation in the Areas Beyond National Jurisdiction Program (Common Oceans Program) started in 2014 to bring about improvement in the management and conservation of tuna and deep-sea fisheries resources and biodiversity in ABNJ, in order to achieve global targets and goals. The Common Oceans Program connects a variety of partners from governments, regional management bodies, civil society, the private sector, academia and industry to reach a common goal of sustainable use and conservation of biodiversity and ecosystem services of ABNJ (Turner, 2015; Glineur, 2015).

One of the four projects under the Common Oceans Program, the GEF/FAO/GOF project on *Strengthening Global Capacity to Effectively Manage Areas Beyond National Jurisdiction (ABNJ Capacity Project)* aims to facilitate global and regional cross-sectoral policy dialogue and coordination, improve knowledge management and outreach, and contribute to increased capacity for decision-making at various levels of ABNJ management. The Global Ocean Forum (GOF) and Food and Agriculture Organization of the United Nations (FAO) are the co-executing agencies of the project.

Overview of the Workshop

Within the framework of the ABNJ Capacity Project, the Global Ocean Forum and FAO co-organized the *Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction* from 17 to 20 February 2015 at FAO headquarters in Rome, with funding support from the Global Environment Facility (GEF). The Workshop was conducted in collaboration with the project partners of the ABNJ Capacity Project noted in Box 1. Over one hundred participants

convened for an open and constructive policy dialogue for supporting national, regional, and global processes in place (formal and informal) in enhancing ecosystem approaches to the management of ABNJ. Participants included experts and high-level representatives from all sectors with expertise, knowledge and experience in ABNJ issues, including global, regional, and national decision-makers; representatives from industries operating in ABNJ; United Nations delegates; intergovernmental organizations; non-governmental organizations; participants in the FAO/GEF Common Oceans Program; policy experts; legal scholars; and academics.

Box 1

Project partners of the GEF/FAO/GOF project on *Strengthening Global Capacity to Effectively Manage Areas Beyond National Jurisdiction*

- Convention on Biological Diversity Secretariat
- Deep Sea Conservation Coalition
- Government of France (French Marine Protected Areas Agency)
- Government of the Republic of Korea (Korea Institute of Ocean Science and Technology)
- Institute for Sustainable Development and International Relations (IDDRI), France
- International Maritime Organization
- International Ocean Institute
- Nausicaa (Centre National de la Mer), France
- Partnerships in Environmental Management for the Seas of East Asia
- UN Division for Ocean Affairs and the Law of the Sea
- SeaOrbiter, UNESCO (Intergovernmental Oceanographic Commission)
- UNESCO (Natural Sciences)
- University of Delaware
- Vietnam National University
- Western Indian Ocean Marine Science Association
- World Ocean Network

The Workshop aimed to:

- Assess knowledge, ongoing trends and efforts at national/regional and global levels, and available capacity relevant to sustainable management of fisheries and biodiversity conservation in ABNJ; exploring, in particular, the implications of these for the FAO/GEF Common Oceans Program;
- Foster cross-sectoral linkages for improved information-sharing on ABNJ across sectors, and between global and regional levels;
- Share and exchange lessons learned, best practices, and emerging trends in research, development, and management of ABNJ resources from various regions of the world;
- Provide a synthesis on the current state of knowledge on relevant global and regional policy processes that could be used to: 1) address areas of uncertainty due to a weak knowledge base on fisheries and biodiversity and 2) improve sustainable use of fishery resources and conservation of biodiversity in the ABNJ.

The workshop consisted of eight panels, which focused on:

1. The importance of ABNJ
2. Major uses and issues
3. Capacity development
4. Experiences, priorities and opportunities in the South Atlantic and Indian Ocean, North Atlantic and the Mediterranean, and in the Pacific
5. Lessons learned from past initiatives.

Three break-out groups organized by regions discussed advancing regional management of ABNJ. Pre-workshop activities involved pre-meetings of the Communities of Practice and ABNJ Public Outreach Network, part of the activities under the capacity development and knowledge management components of the ABNJ Capacity Project.

Overview of the Workshop report

This report is organized into seven sections.

- **Section 1** provides an introduction to the importance of ABNJ and to the Common Oceans Program, an overview of the Workshop and of the summary report (drawn from Session 1 - Opening Session: Importance of areas beyond national jurisdiction).
- **Section 2** provides reviews the major uses, trends, and threats to ABNJ (drawn from Session 2 - Setting the stage: major uses and issues in ABNJ).
- **Section 3** reviews developments related to ABNJ at the global level (also drawn from Session 1).
- **Section 4** discusses possible approaches to, and tools in, integrated and ecosystem-based management that could be applied in ABNJ.
- **Section 5** summarizes the imperatives of capacity development in ABNJ drawing from the existing capacity and gaps identified at the workshop, and ongoing initiatives reported in various sessions (Session 3 - The imperative of capacity development in ABNJ).
- **Section 6** summarizes the experiences and lessons learned as well as the priorities and opportunities in ABNJ management in various regions. In the South Atlantic and Indian Ocean, North Atlantic and the Mediterranean and in the Pacific, drawing from presentations in Session 4 - Experiences, priorities and opportunities in the South Atlantic and Indian Ocean; Session 5 - Experiences, priorities and opportunities in the Pacific; Session 6 - Experiences, priorities and opportunities in the North Atlantic and Mediterranean; and Session 8 - Learning lessons, charting directions) as well as from the discussions by the regional break-out groups (Session 7 - Break-out discussions on advancing regional management of ABNJ).
- **Section 7** provides concluding observations on the outcomes of the workshop.

The list of Workshop presentations from which most of the substance of this report was drawn and a list of additional sources (i.e. other information resources/literature reviewed that are relevant to the topics addressed by the Workshop) are included at the end of the report along with the workshop agenda.



2. MAJOR USES AND TRENDS IN, AND THREATS TO ABNJ

Major uses and trends in ABNJ

The oceans support human life in a variety of ways, by providing important resources as well as ecosystem services. There are many important uses of ABNJ, including fishing, deep-sea mining, and harvesting marine genetic resources. Shipping and submarine cables are also vital activities that take place in these areas. Additional uses of ABNJ include dumping and dredging, offshore renewable energy, cables and pipelines, construction of artificial reefs, land reclamation, tourism, mariculture, and dumping of munitions (Campbell, 2015).

Fisheries play a major role in the global food supply. Within ABNJ, fisheries include both highly migratory, (species with a large geographic distribution and migrate across oceans, such as tuna, sharks, and swordfish) and discrete stocks (stocks that remain in the same area, such as orange roughy, blue ling, and alfonsino) (Sanders, 2015). Fisheries management covers many aspects, including socio-economic dimensions, time scales, fleet capacity and technological considerations, environmental constraints, resource characteristics, and biodiversity and ecological considerations (Sanders, 2015). Regional Fisheries Bodies, RFMOs, and multilateral organizations support fisheries management within ABNJ (Sanders, 2015a). Major binding instruments for fisheries management include UNCLOS, the UN Fish Stocks Agreement, and the Port State Measures Agreement (Sanders 2015). Some of the key non-binding measures include the FAO Code of Conduct for Responsible Fisheries, UNGA Resolutions, the Johannesburg Plan of Implementation, and FAO International Guidelines (Sanders, 2015).

Technological advancements have also allowed for deep-sea mining of important minerals such as Ni, Co, Cu, Au, Zn, and Ag (Johnson, 2015a). Oil and gas exploration, sand and gravel extraction, are other extractive activities that yield important resources from ABNJ (Campbell, 2015).

The harvesting of genetic resources is a growing use of the oceans, including in ABNJ. The diversity of ecosystems and species found within the deep and open ocean provide significant benefits to humankind (Vierros, 2015a). Many important products are a result of marine genetic resources, including compounds used for pharmaceuticals, antifreeze proteins from fish, seaweeds and enzymes for biofuel development, cosmetics, and anti-aging products (Vierros, 2015a).

The global economy is dependent upon shipping, which is responsible for more than 80 percent of world trade (Haag, 2015). Everything from raw materials, commodities, finished goods to food and fuel is shipped via the ocean (Haag, 2015). Shipping is considered to be a “safe, secure and environmentally friendly transport system” (Haag, 2015). While there are International Maritime Organization (IMO) conventions on issues such as discharge, noise, ocean fertilization, CO₂ sequestration, waste, and establishment of Particularly Sensitive Sea Areas, it is up to Flag States, Port States, and Coastal States to help enforce these conventions as the IMO has no policing power (Haag, 2015).

Submarine cabling is a vital use of ABNJ, as they are responsible for global communications. There is no single global submarine network, rather a system of cables is owned by a consortia of 4-30 private companies (Burnett, 2015). Cables are not flagged to a single State, and repairs are completed through private contracts (Burnett, 2015). Submarine cables experience few faults and are thought to have a neutral to benign environmental impact on the seafloor, as they are laid on the surface, not buried, and are laid to avoid seamounts, vents, and other steep geographic features (Burnett, 2015).


Threats to ABNJ

The deep and open ocean contains a variety of ecosystems, species and genetic resources that provide immense and numerous benefits to mankind, which are threatened by human pressures, often in a cumulative way (Vierros, 2015a). These threats include the fragmented legal, policy and institutional regime which lacks structure, consistence and coherence (Vierros, 2015a). Moreover, modern conservation principles and tools, e.g. ecosystem approach, area-based-management and EIA/SEA are not consistently incorporated in existing instruments (Vierros, 2015a). These threats also include ocean fertilization, shipping, Illegal, unreported and unregulated (IUU) fishing, extractive activities, marine debris and pollution, ecosystem impacts, and increased pelagic fishing for highly migratory species (Turner, 2015). ABNJ presents unique challenges, among them: complex ecosystems, many actors with different agendas, large area (40 percent of the surface of the Earth, 65 percent of the surface of the oceans, and nearly 95 percent of the ocean's volume), as well as failing on established targets (Rio, WSSD, and Aichi) (Turner, 2015).

Fisheries face many unique challenges. Not only can climate change and other environmental factors threaten stocks, but overharvesting can also lead to the loss of important fishery resources (Danovaro, 2015). Major challenges for fisheries in ABNJ include the expense of monitoring, control and surveillance (MCS); lack of knowledge on ecosystems, stocks and habitats as well as the dynamics of the fisheries; the sparseness and cost of research for ABNJ; and fish moving across jurisdictional boundaries can cause unique issues (Sanders, 2015). IUU fishing is especially problematic because it results in biodiversity and economic losses to other fishermen (Chopin, 2015). By-catch from fisheries is another major issue, as it wastes potential food sources and results in the loss of biodiversity (Chopin, 2015). While RFMOs have changed policies and management practices, even basic texts in some cases, and although biodiversity requirements are being recognized, issues such as the role of forage species, trophic relationships and other dependencies, and other ways to maintain ecosystem structure and function still need to be assessed and agreed upon (Garcia, 2015).

Threats from climate change are of particular concern as changes in water temperatures and pH place stress on organisms. Climate change may cause species composition changes, differences in species abundance, changes in species richness, and altered ecosystem functioning (Danovaro, 2015). Ocean warming may cause invasive species to take hold in new habitats, and climate change may cause increased deoxygenation (Danovaro, 2015). Ocean acidification is expected to cause adverse effects to species, as well as to communities and ecosystems (Danovaro, 2015).

Other threats to ABNJ include mining, marine litter, and shipping. Mining and other extractive activities can create pollution and can be destructive to the marine environment. Seabed mining can create potential impacts to the seafloor, water-column, and surface (Johnson, 2015a). The



deep seas are home to specialized animals, including chemosynthetic organisms at hydrothermal vents, which have long recovery times and there is often an incomplete knowledge of species range and diversity (Johnson, 2015a). Marine litter can cause entanglements and can also cause marine species to choke or suffer from malnourishment. Noise from ocean activities can also pose a threat to marine species. Shipping can cause operational discharges, pollution (either accidental or intentional), and physical damage to marine life and habitats (Haag, 2015).

Resources harvested in ABNJ face unique management challenges as they are utilized by many parties, making it critical to take a collaborative approach to sustainable management. Linkages between ABNJ and national jurisdiction provide biological unity and food security (Chopin, 2015). Additionally, because of this link, there are cross-impacts of resource exploitation and pollution and there is thus a need to provide compatible management measures (Chopin, 2015). While there are major threats to ABNJ, a transformational impact can be seen in moving away from the race to fish, increasing capacity to protect fragile ecosystems, reduce barriers to international and cross-sectoral sharing of knowledge and experiences, moving towards an ecosystem approach (Turner, 2015).



3. DEVELOPMENTS AT THE GLOBAL LEVEL

This section provides a brief introduction on the broader context within which fisheries management, biodiversity conservation, and other management issues in ABNJ have been addressed at this workshop. Specifically, the global process towards the development of an international legally-binding instrument on ABNJ under UNCLOS; the forging of a climate agreement at the UNFCCC COP 21 in Paris in December 2015; and the development of the Post-2015 Development Agenda, among others, are considered particularly relevant.

Development of an international legally-binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction

In 2004, the United Nations General Assembly (UNGA) established 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 (BBNJ). The mandate of the BBNJ Working Group is: (a) To survey the past and present activities of the United Nations and other relevant international organizations with regard to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction; (b) To examine the scientific, technical, economic, legal, environmental, socio-economic and other aspects of these issues; (c) To identify key issues and questions where more detailed background studies would facilitate consideration by States of these issues; (d) To indicate, where appropriate, possible options and approaches to promote international cooperation and coordination for the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction¹. Having met nine times between 2006 and 2015², the BBNJ Working Group recently agreed by consensus to provide recommendations for a decision by the UNGA on the development of a new legally binding instrument under UNCLOS on the conservation and sustainable use of marine biodiversity in ABNJ.

The recommendations include: the establishment of a preparatory committee to make substantive recommendations for the draft text of the instrument, beginning work in 2016 and ending in 2017; the start date for an intergovernmental conference to consider recommendations of the preparatory committee is to be decided by the seventy-second session of the General Assembly; and the topics addressed in the negotiations are those decided in the 2011 package, namely “the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity-building and the transfer of marine technology³.”

¹ UNGA Resolution 59/24, para 73. Available: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N04/477/64/PDF/N0447764.pdf?OpenElement>

² February 2006, April/May 2008, February 2010, May/June 2011, May 2012, August 2013, April and June 2014 and January 2015.

³ Letter dated 13 February 2015 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly. A/69/780*. Available: www.un.org/ga/search/view_doc.asp?symbol=A/69/780

While obtaining consensus for the new agreement to be negotiated was no small task which included “almost ten years of negotiations” (Kohona, 2015), there are still “those that remain unconvinced of the need of a new instrument” (Lijnzaad, 2015). Even though “the general feeling among the clear majority of delegations participating in the ad-hoc working group was that there is a major gap in the legal framework that needed to be addressed” (Kohona, 2015), keeping the unconvinced few engaged “in terms of moving forward on the grand project, if it is to cover all of the world’s oceans” (Lijnzaad, 2015), is a challenge as the preparations begin for the next phase.

BBNJ involves a complex set of issues that need to be addressed in candid, open and constructive discussions to advance our common understanding of these issues. A developing country perspective from the Caribbean presented at the workshop considered biodiversity in ABNJ as “leftover business” from the negotiations for UNCLOS in 1994 and that the time has come to address whatever governance or legal gaps may exist in the 32- year old UNCLOS (Charles, 2015). Biodiversity is found in the Area and in the water column in ABNJ as well, for which no regulatory framework exists. But since these resources are located beyond national jurisdiction, they should be explored and exploited, and utilized in a sustainable manner for the international community as a whole (Charles, 2015). A perspective from the European Union further argues that UNCLOS provides the regime of common heritage of mankind as well as the regime of freedom of the seas, but neither applies in this case, pointing to the need to build a new ABNJ regime based on a hybrid approach, one that should have global responsibility to regulate the problem of conservation and sustainable uses of marine biodiversity as a whole (Scovazzi, 2015).

There is broad consensus among governments, IGOs, and civil society, however, that the new implementing agreement to UNCLOS should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies, but should organize coordination among these institutions (Scovazzi, 2015; Semedo, 2015). Instead, joint efforts, building on established and emerging partnerships and global best practices, should assist in the management, sustainable use and protection of marine living resources and associated ecosystems to benefit present and future generations (Semedo, 2015), even as global processes work to address gaps in the existing regulatory framework in ABNJ.

Examples of such cooperation, involving governments, IGOs, NGOs, the scientific community, and other stakeholders, include the FAO’s Blue Growth initiative and the EBSA (ecologically or biologically significant marine areas) process led by the CBD Secretariat. The Blue Growth initiative *aims at maximizing socioeconomic benefits from a sustainable management of our living aquatic natural resources, which places a strong emphasis on national and regional policies that are responsible and sustainable and that lead to economic growth and food security* (Semedo, 2015). Through the EBSA process, the CBD Secretariat has facilitated the scientific description of a total of 204 areas as meeting the EBSA criteria, which are candidate areas in need of protection (Ferreira de Souza Dias, 2015).

Development of a climate agreement to be concluded at the UNFCCC COP 21 in Paris

The twenty-first session of the Conference of Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) is set to meet 30 November to 11 December 2015 in Paris, France. This COP will build on the momentum generated by the outcomes of the Durban Climate Change

Conference, which launched the process for a new universal, legal agreement to deal with climate change after 2020 by establishing the ad hoc Working Group on the Durban Platform for Enhanced Action (ADP). The ADP has the mandate to develop the new legal agreement no later than 2015 in order for adoption at the twenty-first COP. With the second commitment period of the Kyoto Protocol coming to an end in 2020, the new agreement hopes to deliver a new, universal legal agreement for climate change beyond 2020 and is expected to bind nations together in a global effort to reduce emissions. Elements of the negotiating text includes mitigation, adaptation and loss and damage, finance, technology development and transfer, capacity building, transparency of action and support. Further negotiation on the draft text will occur in Bonn in June 2015, where the text will be further elaborated and provides an opportunity for outstanding issues to be resolved⁴.

As COP 21 draws near, States have been ramping up their commitments for emission reductions and outlining what efforts they will take on under the new agreement, including publicly disclosing steps to reduce emissions and achieve climate neutrality (Ribera, 2015). States have also made further commitments for climate financing, pledging donations to the Green Climate Fund, which stands at over \$10.2 billion, and making donations towards adaptation efforts of developing countries (Ribera, 2015). In addition, States have been switching to cleaner technologies in efforts to reduce emissions from fossil fuels. For example, Latin America has embraced the use of solar power to reduce carbon emissions and the use of information and communication technologies in India and Malaysia is helping to achieve better use of energy and reduce emissions (Ribera, 2015).

Although there are high hopes for this new and universal legal agreement for climate change, oceans and seas are largely left out of the draft text. While there are other fora for ocean issues and potentially fragmenting governance or preempting other processes is a concern if oceans are included within the UNFCCC process, the fact that oceans and seas play a major role in climate regulation means a significant factor in reducing the effects of climate change as well as adaptation and mitigation measures is left out of the potential solutions to the climate change issue. For example, the negotiating text makes references to terrestrial carbon sinks, forests, but makes no mention to marine carbon sinks, such as wetlands. Including the oceans and seas into the UNFCCC process could provide additional ways forward when it comes to minimizing impacts from climate change.

Development of the Post-2015 Development Agenda

Rio+20 launched “an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals” (*The Future We Want*, para. 248). The UN Open Working Group on Sustainable Development Goals was tasked with this process of developing the sustainable development goals (SDGs). In July 2014, after 13 sessions, the Open Working Group (OWG) released the consensus document, Open Working Group Proposal for Sustainable Development Goals⁵, which details the

⁴ “UN Communicates Negotiating Text for Climate Agreement to Capitals Move Completes Requirements for Nations to Adopt Legal Instrument in Paris.” Available: www.un.org/climatechange/blog/2015/03/un-communicates-negotiating-text-climate-agreement-capitals-move-completes-requirements-nations-adopt-legal-instrument-paris/

⁵ <https://sustainabledevelopment.un.org/content/documents/1579SDGs%20Proposal.pdf>

17 proposed SDGs (and 169 targets, including 62 targets on means of implementation). This SDG package was up for consideration by the 69th session of the UN General Assembly, and was adopted via resolution⁶ in September 2014.

Goal 14 of the SDG package is “Conserve and sustainably use the oceans, seas and marine resources for sustainable development.” Having oceans and seas featured prominently as a stand-alone goal was a joint effort and supported by Member States around the globe, especially the Pacific Small Island Developing States and Timor-Leste, and a number of intergovernmental organizations and civil society (including FAO, GOF, and IOC of UNESCO) who were vital to leading the support for a stand-alone ocean and seas goal. Targets for the oceans and seas goal include: preventing marine pollution; sustainably managing and protecting marine and coastal ecosystems; minimizing impacts from ocean acidification; addressing illegal, unreported and unregulated (IUU) fishing, overfishing, and ending destructive fishing practices; conserving at least 10 percent of coastal and marine areas; prohibiting certain forms of fisheries subsidies which contributed to overfishing, overcapacity, and IUU fishing; and increasing the economic benefits to SIDS and LDCs from the sustainable use of marine resources. Means of implementation include increasing scientific knowledge, developing research capacities and transfer of marine technology; providing small-scale and artisanal fisheries access to marine resources and markets; and ensuring the full implementation of international law, including existing regional and international regimes⁷.

Intergovernmental negotiations are now building upon the work of the OWG and working to solidify the package before the UN Summit to adopt the Post-2015 Development Agenda in September 2015. There is much discussion at these negotiations, with States divided on whether or not to re-open discussions on the goals and targets or to focus on developing indicators for those goals and targets (IISD, 2015). The discussion on indicators at the intergovernmental negotiations have centered on the indicators being cross-cutting, multi-dimensional, complementary, measureable, limited in number, simple, balanced, qualitative, and quantitative, as well as address the particular circumstances of developing countries. The UN Statistical Commission has created the Inter-Agency Expert Group on Sustainable Development Goal Indicators to help develop an indicator framework for the SDGs. This Expert Group has released a “road map”⁸ for the development and implementation of the indicator and monitoring framework for the goals and targets of the post-2015 development agenda. Part of the work the Expert Group has carried out was an initial assessment⁹ of the indicators that can be used for monitoring. This assessment rated the indicators according to feasibility, suitability, and relevancy to measure the target it was proposed under. The results show there is much work to be done on providing indicators which match the feasibility, suitability, and relevancy standards required in order to carry out the SDGs.

⁶ www.un.org/en/development/desa/news/sustainable/sdgs-post2015.html

⁷ United Nations (2015) Sustainable Development Goals, 17 Goals to Transform our World, www.un.org/sustainabledevelopment/sustainable-development-goals/

⁸ <http://unstats.un.org/unsd/statcom/doc15/2015-2-BroaderMeasures-E.pdf>

⁹ [https://sustainabledevelopment.un.org/content/documents/6754Technical%20report%20of%20the%20UNSC%20Bureau%20\(final\).pdf](https://sustainabledevelopment.un.org/content/documents/6754Technical%20report%20of%20the%20UNSC%20Bureau%20(final).pdf)

4. POSSIBLE TOOLS AND APPROACHES TO INTEGRATED AND ECOSYSTEM-BASED MANAGEMENT IN ABNJ

Sectoral management is the predominant management approach being carried out in ABNJ by regional and international organizations. The level of effectiveness and progress achieved through these sectoral mechanisms, the interlinked nature of the environment and resources in ABNJ, and the threats that continue to undermine their structure and function, indicate the need for an integrated approach to management. Among the proven approaches that can be transferred from the management of the EEZs to the management of ABNJ are the overarching frameworks of integrated coastal and ocean management (ICM), ecosystem-based management (EBM), and marine spatial planning (MSP), which all emphasize a multiple-use, area-based approach, as well as sector-specific area-based management approaches.

Integrated coastal and ocean management (ICM)

The integrated coastal and ocean management (ICM) approach, which is a multi-sectoral approach to management is widely applied in coastal zones and in EEZ areas. Reports in the 1990s indicated a global proliferation of ICM especially in developing countries (Sorensen, 2002). Originating in the 1990s, ICM *is a continuous and dynamic process by which decisions are taken for the sustainable use, development, and protection of coastal/marine areas and resources* (Cicin-Sain and Knecht, 1998). It is *a natural resource and environmental management framework which employs an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal area* (Chua, 2006). Major international agreements have incorporated the approach as the framework of choice. ICM has been applied by various countries in the development of national ocean policies which extend the scope of management to incorporate their EEZs (Cicin-Sain and Knecht, 1998; Balgos, Cicin-Sain, and VanderZwaag, 2015).

Ecosystem-based management (EBM)

The ecosystem-based management (EBM) approach is defined by the CBD as *a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way* (CBD, 2000). EBM is also defined as *an integrated approach to management that considers the entire ecosystem, including humans and integrates ecological, social, economic, and institutional perspectives* (McLeod *et al.*, 2005). Thus, EBM takes into consideration the various components of the ecosystem, e.g., land, water, living resources, including humans, as well as the different dimensions of management, e.g., ecological, social, and economic, with the goal of maintaining an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. EBM also considers the cumulative impacts of different sectors (McLeod *et al.*, 2005).

Ecosystem approach to fisheries (EAF)

The ecosystem approach to fisheries (EAF), the fisheries sector application of EBM, *strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries* (FAO, 2003). Regional fishery bodies and arrangements are in various stages of implementing EAF. The types of action that have been undertaken or initiated by RFMOs include: (1) debates on the EAF issue and implications; (2) identification of key ecosystem issues; (3) collection of additional information; (4) holding of special working and advisory groups; (5) agreement on non-binding measures to improve selectivity; develop ecosystemic assessment, monitoring and modelling; protect endangered species and habitats; reduce bycatch and discards; use the precautionary approach; develop educational programmes; establish catch documentation; consider pollution from ships and marine debris; and fight against illegal fishing; (6) discussion of collaboration with Regional Seas Conventions. A few binding measures have been adopted by a number of RFMOs such as: formal adoption of EAF; bycatch reduction measures; habitat protection and MPAs, precautionary management and endangered species. (Garcia, 2006)

EAF has also been implemented at the regional level in large marine ecosystems programs. One example is the Benguela Current Large Marine Ecosystem (BCLME) project, which investigated the feasibility of EAF in the region by examining the existing issues, problems and needs related to EAF and considering different policy options to achieve sustainable resource management (FAO, 2007). Moreover, the formation of the Benguela Current Commission (BCC) in 2006 has facilitated the coordinated efforts of the countries involved (Angola, Namibia and South Africa) to address broad issues such as recovery of depleted stocks, restoration of degraded habitats and control of coastal pollution. The BCC will extend its focus beyond fisheries management and therefore implement EAF plans in broader context of an ecosystem approach to ocean governance (MEAM, 2009; OECD, 2010).

The application of EAF has made major advances, including implementation through VMEs and in combination with other management approaches, e.g., MPAs, EBSAs; improved policy frameworks and information systems, e.g., development of a regional Ecosystem Approach Roadmap (Kingston, 2015); assessment of implementation; and cooperation among major institutions responsible for addressing fisheries and biodiversity issues (Garcia, 2015).

Marine spatial planning (MSP)

Marine Spatial Planning (MSP) involves analyzing and allocating parts of three-dimensional marine spaces to specific uses, to achieve ecological, economic, and social objectives that are usually specified through the political process (UNESCO, 2006). As with ICOM, the lessons from the application of MSP in areas within national jurisdiction provides a wealth of learning that could be adapted in area-based management in ABNJ (UNEP, 2008). Its application has great potential to improve management of shared resources at ecosystem and transboundary scales (GEF STAP, 2012), e.g., the EU's MSP Framework Directive, which provides for setting up of mechanisms for cooperation among neighbors (Gambert, 2015). Moreover, theoretically, marine spatial planning can be undertaken in transboundary space and areas beyond national jurisdiction (ABNJ), but there is very limited experience in systematic planning in these areas to draw on (GEF STAP, 2012).

Existing multilateral institutions such as those that support Regional Seas and Large Marine Ecosystems could also support the implementation of transboundary MSP, which can also be based on the diagnostic analyses, inter alia, and implemented through strategic action plans (SAP) that flow from these analyses. The participation of sectoral organizations such as the IMO, RFBs, FAO, and ISA is necessary for implementing MSP in areas beyond national jurisdiction (GEF STAP, 2012).

Sector-specific area-based management approaches

Area-based management is a type of management approach being used in the marine environment that entails spatially dividing the marine environment for a variety of compatible uses and accounting for the many stressors on the ecosystem (GBMF, 2007). It accommodates various types of uses while controlling the adverse impacts of those uses on the marine environment and on the ecosystems and resources found therein (UNEP, 2008). There are various types of area-based management that are sector-driven, which includes vulnerable marine ecosystems (FAO), Particularly Sensitive Sea Areas (IMO), "special areas" (IMO), areas of particular environmental interest (ISA), "impact reference zones" and "preservation reference zones" (ISA), marine protected areas established through regional seas conventions, and ecologically or biologically significant marine areas (EBSAs) (CBD). Component 4 of the ABNJ Deep Sea Project will be focusing on the development and testing of a methodology for area-based planning for biodiversity conservation in ABNJ (Tandstad, 2015a).

Vulnerable marine ecosystems (VME)

A vulnerable marine ecosystem (VME) is described in the [FAO] Deep-sea Fisheries Guidelines by its characteristics and by its vulnerability. Vulnerability is dependent upon the nature of the fishery and hence region dependent (FAO, 2009). Identification of VMEs require the application of a set of criteria, which includes: 1) uniqueness or rarity; 2) functional significance of the habitat; 3) fragility; 4) life-history traits of component species that make recovery difficult; and 5) structural complexity (FAO, 2009). Even before the UNGA resolution and FAO technical guidelines on the identification and protection of VMEs, NEAFC have started closing VMEs in 2004. Protection of VMEs by NEAFC include: 1) identifying VMEs and adopting appropriate management measures (including area closures); 2) adopting precautionary measures in areas where VMEs are likely to occur; 3) ensuring that encounters with VMEs result in an appropriate reaction (such as temporary closures); 4) ensuring that prior assessments are made before exploratory fishing begins in new areas; and 5) ensuring that new areas are only open to bottom fisheries after assessing results from fishing under exploratory fishing plan (Asmundsson, 2015).

Particularly Sensitive Sea Areas (PSSAs) and Special Areas

Particularly Sensitive Sea Areas (PSSAs), designated through the International Maritime Organization (IMO), may be established where shipping poses a serious threat to the marine environment. A Particularly Sensitive Sea Area is one that needs special protection through the adoption of associated protective measures by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities (UNEP, 2008). Currently, 14 PSSAs have been designated by IMO, none of which so far, are located in ABNJ (Haag, 2015).

MARPOL 73/78 defines certain sea areas as "special areas" where, for technical reasons relating to their oceanographic and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required. Under the Convention, these

special areas are provided with a higher level of protection than other areas of the sea. MARPOL 73/78 also establishes certain sulphur oxide Emission Control Areas with more stringent controls on sulphur emissions (IMO 2005). There are 19 Special Areas and 3 Emission Control Areas established under MARPOL (Haag, 2015). MARPOL Special Areas that include the high seas are as follows: Annex I (no oily discharges): the Mediterranean Sea and the Antarctic area (south of 60S); Annex II (no noxious liquid discharges): Antarctic area (south of 60S); and annex V (no garbage discharge): Antarctic (south of 60S) (UNEP, 2008).

Areas of particular environmental interest and reference zones

In 2012, the International Seabed Authority has designated a representative network of “areas of particular environmental interest” (APEI) as part of the comprehensive environmental management plan to ensure effective protection of the marine environment of that part of the Area known as the Clarion-Clipperton Zone from harmful effects that may arise from activities in the Area (ISA, 2012). This has been done in advance of contractor-designated “impact reference zones” and “preservation reference zones” which are areas to be used for assessing the effect of activities in the Area on the marine environment and which are representative of the environmental characteristics of the Area, and areas where no mining occurs, to ensure representative and stable biota of the seabed remain, in order to assess any changes in the flora and fauna of the marine environment, respectively (ISA, 2000; Gjerde, 2013). The rules and regulations on polymetallic nodules require contractors applying for exploration rights to include “proposals for areas to be set aside and used exclusively as impact references zones and preservation reference zones” in programs for monitoring and evaluating impacts of deep seabed mining on the marine environment (ISA, 2000).

Marine protected areas

In its decision VII/5, the Conference of the Parties (COP) to the Convention on Biological Diversity, at its seventh meeting, agreed that MPAs are one of the essential tools and approaches in the conservation and sustainable use of marine and coastal biodiversity. The Conference of the Parties also recognized the need for international cooperation and action to improve conservation and sustainable use of biodiversity in marine areas beyond the limits of national jurisdiction, including the establishment of further MPAs consistent with international law, and based on scientific information, including areas such as seamounts, hydrothermal vents, cold-water corals and other vulnerable ecosystems (CBD, 2005a). In the Mediterranean, States have established MPAs in ABNJ. The Pelagos Sanctuary for Mediterranean Marine Mammals, initially established by a tripartite agreement among France, Italy, and Monaco in 1999, was accepted as a specially protected area of Mediterranean interest in 2001, making its protection binding on all 21 parties to the Barcelona Convention (CIESM, 1999; CBD, 2005b; Scovazzi, 2015). In 2009, CCAMLR approved a high seas marine protected area south of the South Orkney Islands in the Antarctic Peninsula Region (WWF, 2009). The OSPAR Commission has established six new conservation areas in international waters in the North Atlantic, including the Charlie-Gibbs Marine Protected Area (WWF and BFN undated).

Ecologically or biologically significant areas (EBSAs)

In 2008, CBD established seven criteria to be used in the identification of ecologically or biologically significant marine areas (EBSAs) “in need of protection, in open ocean waters and deep sea habitats” (“the EBSA process”). Initially driven by the motivation to establish marine protected areas in ABNJ, the EBSA process has since broadened to encompass the possibility of informing marine spatial planning and other management and governance activities, both within and beyond

national jurisdiction, especially due to the overlap between the EBSA criteria and biodiversity criteria used by various high seas and regional governance institutions. Through the EBSA process, almost 204 EBSAs have been described, and a large percentage of the global ocean has been considered by nine regional EBSA workshops (Ferreira de Souza Dias, 2015). However, the procedures by which these areas could be protected through formal management structures have not yet been developed (Balgos and Hamon, 2013).

Environmental Impact Assessment and Strategic Environmental Assessment

Environmental impact assessment (EIA) is 'a procedure for evaluating the likely impact of a proposed activity on the environment' (United Nations, 1991). First adopted in the United States in 1970, it has become an important tool in national environmental management, with a large number of nations implementing the practice in various forms (Birnie, Boyle and Redgwell, 2009), including: project level EIA, Strategic and Sectoral Environmental Assessments including at the regional level (e.g., EU Directive on Strategic Environmental Assessment), Country Environmental Assessments, and Environmental Audits and Appraisals (MFI-WGE, 2005). EIA primarily aims to ensure that environmental and social impacts of certain activities are identified and addressed. The EIA process provides decision-makers and stakeholders with adequate information when deciding whether to authorize an activity (Birnie, Boyle, and Redgwell, 2009; MFI-WGE, 2005).

In ABNJ, the requirement to carry out EIAs is implemented in a fragmented way. UNCLOS provides a general obligation to carry out such assessments "when States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment". However, this requirement is poorly implemented (Druel, 2013). Under the CBD, Voluntary Guidelines for the consideration of biodiversity in environmental impact assessments and strategic environmental assessments in marine and coastal areas were adopted in 2012 (UNEP, 2012; CBD COP 11, Decision XI/18 on Marine and Coastal Biodiversity).



5. THE IMPERATIVE OF CAPACITY DEVELOPMENT IN ABNJ

Capacity development has been and remains a central theme in ocean management and governance. UNCLOS provides for transfer of technology under the Authority (Article 144); scientific and technical assistance to developing States regarding marine pollution (Article 202); and development and transfer of marine technology (Part XIV). Capacity development received great emphasis in Chapter 17 of Agenda 21 with many detailed prescriptions on improving capacity for integrated ocean and coastal management, as well as for specific sectors (such as fisheries, land-based pollution), small island developing States (SIDS), marine science and monitoring, climate change adaptation. Emphasis was placed as well on the development of educational facilities (such as regional centers of excellence); research facilities for systematic observation of the marine environment and disaster response; strengthening of institutions for integrated management, marine science monitoring and assessment; public participation and education. The WSSD Johannesburg Plan of Implementation also emphasized capacity development needs, but in much less detail and with no timetables, including capacity for integrated coastal area management, small scale fisheries, land-based sources of pollution, biodiversity, and SIDS needs regarding biodiversity and climate change, traditional knowledge. The Rio+20 outcome document emphasized the need for enhanced capacity-building for sustainable development and called for the strengthening of technical and scientific cooperation. In addition, capacity development and technology transfer are among the four elements in the 2011 package to be negotiated as part of the new international instrument under UNCLOS. (Balgos, Cicin-Sain, and VanderZwaag, 2015)

In the context of sustainable management of oceans, coasts and small islands, capacity development involves investment in people, institutions, and society to understand the values associated with the resources of the ocean and coastal areas. At the individual level, capacity is needed to develop and implement policies that support integrated coastal and ocean management, as well as generate data to inform policy-making. In addition to individual capacity, building institutional capacity is required to ensure long-term gains in capacity investment. The strengthening of institutions, as well as the development of organizational frameworks, provides a mechanism for continued, adaptive governance and management. An important component of capacity is an enabling environment that needs to be established to reconsider and restructure ocean management governance and policies in forward-looking ways.

What capacity is needed in ABNJ?

The ABNJ Capacity project will carry out a capacity needs assessment to analyze existing capacity and the future/desired/needed capacity in the management of ABNJ at both national and regional levels. The assessment will be carried out at the global level, with special emphasis on target stakeholders in regions where there is considerable interest in advancing ecosystem-based management of ABNJ, such as in the Indian Ocean, Southeast Africa, Southeast Pacific, and the Pacific Islands. These regions also represent target regions for the projects of the Common Oceans Program. A targeted survey will be designed and distributed to respondents from the Global Ocean Forum national leaders network (over 110 countries), Regional Seas Program, Large Marine Ecosystems (LME) programs, and the regional fisheries management organizations (RFMOs). The survey will

target senior decision-makers at regional and national levels, with an emphasis on developing countries. Questions will be designed to assess existing national/regional policies and authorities for the ABNJ, as well as the level of interest and capacity constraints in ABNJ issues. Illustrative questions that will be asked include:

- What capacity is present regarding ABNJ in the nation/region? What is the level of knowledge of national/regional leaders about: ABNJ environments and resources, including climate change effects; level of scientific understanding of ABNJ environments and resources; threats to the marine environment, especially to marine biodiversity; multiple current and potential uses of the ABNJ—e.g., shipping, fishing, submarine cables, scientific research, deep-seabed mining, tourism, carbon capture and storage; existing legal and policy frameworks at global and regional levels?
- To what extent has the country/region developed a national/regional policy/strategy on ABNJ? Which organization(s)/agencies (regional, national), if any, has/have competence regarding ABNJ?
- What types of capacity development approaches would be useful in the further development of capacity on ABNJ in the nation/region?

The results of the assessment will be used to inform and to help guide the design of the ABNJ Regional Leaders Program and the development of ABNJ training materials, as described in the next section (Balgos, Cicin-Sain and Wales, 2015).

Capacity development initiatives in ABNJ through the Common Oceans Program

Capacity development is a key component and integral part of the projects under FAO's Common Oceans Program targeting development of individual as well as institutional capacities.

The **Common Oceans Capacity Project** aims to facilitate global and regional cross-sectoral policy dialogue and coordination, improve knowledge management and outreach, and contribute to increased capacity for decision-making at various levels of ABNJ management. The project aims to 1) raise the awareness of decision-makers at national and regional levels and of the general public about ABNJ issues to spur greater understanding of and engagement in ABNJ management; 2) raise the awareness of decision-makers at national and regional levels and of the general public about ABNJ issues to spur greater understanding of and engagement in ABNJ management; 3) strengthen and broaden cross-sectoral dialogue and policy coordination in the ABNJ, especially through linking global and regional frameworks and approaches and promoting lesson learning from experiences in different regions; and 4) enhance the capacity of decision-makers, especially from developing countries, to understand the issues at stake and the processes involved in ABNJ, and to foster their participation in international/regional processes for management and coordination of ABNJ activities. Activities to be undertaken during the project include: convening cross-sectoral multi-stakeholder workshops and high-level dialogues for key decision-makers to enhance their awareness and understanding of ABNJ issues; developing two communities of practice (CoPs) that will create a network of practitioners to collectively address problems and issues in the ABNJ and to advance knowledge on these questions (see Box 2 for the questions to be addressed by the ABNJ Communities of Practice as discussed during their face-to-face meeting, 17 February 2015, FAO,

Rome); and creating a public outreach network and ABNJ web portal to expand and improve efforts to inform stakeholders about the ABNJ and the Common Oceans Program). (Balgos, Cicin-Sain and Wales, 2015).

Box 2

Questions for the ABNJ Communities of Practice to address as discussed during their face-to-face meeting, 17 February 2015, FAO, Rome

1. What are the successful models of collaboration and coordination between and among regional processes in ABNJ? What are the conditions of preparedness, including human capacity, that are needed by national government and regional agencies in order to adopt and implement collaboration and coordination mechanisms?
2. What are the overlaps, similarities, and differences among the approaches in the management of ABNJ and its resources that are promoted by regional and global organizations (e.g., IMO, ISA, UNEP, CBD, FAO) and how can they be coordinated/harmonized?
3. How can the fragmented legal framework in ABNJ at the regional level be addressed (e.g. most RFMOs/RFBs don't have a mandate beyond fisheries management; other regional organizations mostly cover only environmental issues)?
4. What are good examples of convening bodies that can bring various stakeholders together at the regional level? What are the specific roles and characteristics of such convening bodies?
5. What can national government agencies do in order to raise their level of capacity regarding ABNJ? What assistance do they need in order to effectively implement environmental and sustainable development agreements in an integrated and harmonized manner at the national (and sub-national) levels?
6. How can best practices and approaches in the management of ABNJ, e.g., in the Pacific (oceanscapes), in the Mediterranean (use of MOUs), in the North Atlantic (Sargasso Sea initiative) be identified and disseminated? How can this information be managed for effective dissemination to national and regional end-users? How can these existing data depositories and clearing-house mechanisms be put to use?
7. What do national government agencies need to do in order to mainstream best practices in ABNJ into existing authorities and processes?
8. What livelihood issues and users' issues are at stake in the management of ABNJ?
9. How can the data needed in order to carry out multiple-sector area-based planning and management in ABNJ be produced?
10. What can these CoPs do to contribute useful information to the development of a legally-binding international instrument on ABNJ under UNCLOS?
11. How can it be communicated to the public, what ABNJ is and its importance (ecological, economic, and social)? How can public stewardship of ABNJ be fostered?

Under the Common Oceans Capacity Project, the **ABNJ Regional Leaders Program** was developed to strengthen the capacity of leaders from developing countries and small island developing States at the regional and national levels to better address resources and issues in ABNJ and to more effectively participate in global and regional ABNJ processes. The first session of the ABNJ Regional Leaders Program was held on 15–21 January 2015 at the United Nations in New York. Fourteen

participants from national governments and/or regional organizations concerned with marine resource management from around the world were selected from a pool of 108 applicants. The course was delivered over nine days, beginning with an introductory course to ABNJ, highlighting relevant environments, uses, resources, and legal and policy frameworks, and concluding with participation in the 9th Meeting of the 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 (BBNJ) and a side event held during the BBNJ meeting. The ABNJ Regional Leaders Program was developed and implemented by the Global Ocean Forum and University of Delaware, in collaboration with FAO, and with participation by the United Nations Division for Ocean Affairs and the Law of the Sea (DOALOS), the University of Delaware, and other organizations; supported by the Global Environment Facility (GEF); and involved a wide range of partners (Balgos, Cicin-Sain and Wales, 2015).

The **Common Oceans Tuna Project** is a global partnership initiative for capacity building and developing sustainability in tuna fisheries management in ABNJ. The project aims to carry out: 1) exchange of experience among RFMOs to facilitate global collaboration in the spirit of the Kobe process¹⁰ and the joint work of the t-RFMO Secretariats; 2) provide capacity for effective participation of developing states in regional fisheries management; and 3) contribute to increased capacity at the global level by supporting the dialogue between the conservation and fisheries management communities. The project has three components, which cover sustainable tuna fisheries management practices, reduction of IUU fishing, and reduction of fisheries impacts on ecosystems in ABNJ. Through the above activities to be conducted in collaboration with partners within the Common Oceans Programme, the project expects to be able to bring information on alternative uses and biodiversity concerns to the fisheries community; address possible misconceptions and misinformation about tuna fisheries in the ABNJ, including RFMOs; and empower the new actors with accurate information on the impacts of fisheries in ABNJ. (Anganuzzi, 2015)

The **Common Oceans Deep Sea Project** aims to achieve sustainable use of deep-sea living resources and biodiversity conservation in the ABNJ, through the application of ecosystem approach. The project, through four components, target:

1. Improved application of policy and legal frameworks;
2. Reduced adverse impacts on VMEs and components of EBSAs;
3. Improved planning and adaptive management for ABNJ deep-sea fisheries; and
4. Development and testing of a methodology for area-based planning and management.

Capacity development opportunities provided by the project undertaken in collaboration with the FAO's EAF-Nansen project, include:

1. Technical training (e.g., EAF process in pilot regions, stock assessment of deep-sea fish stocks);

¹⁰ Named because it started from a meeting held in Kobe, Japan in 2007, the Kobe process refers to global consultation that involves active FAO participation in joint tuna RFMOs (t-RFMOs) meetings and in meetings with their member countries, with the purpose of improving the operation and effectiveness of t-RFMOs and achieving their objectives by harmonizing their activities on a global scale (FAO undated).

2. Awareness raising and regional exchange on VMEs and components of EBSAs, multi-sector area-based planning, and implementation of policy guidance in deep-sea fisheries;
3. Hands-on workshops/on the job training, e.g., species identification; and
4. Internships and institutional and individual twinning arrangements on specific topics identified as capacity gaps. (Tandstad 2015b).

Sectoral capacity development initiatives in ABNJ

International bodies that presently exercise mandates relevant to the management and governance of ABNJ carry out respective capacity development activities.

The standard terms of exploration contract under the International Seabed Authority requires a mandatory training programme for personnel of developing countries (Johnson, 2015a). IMO provides support to individual States upon request. IMO's Integrated Technical Cooperation Programme provides technical assistance to developing countries. Following the Standards of Training, Certification and Watchkeeping (STCW), IMO provides guidance and recommendations for training and competency of officers and masters on ships (Haag, 2015).

Capacity-building aspects relevant to the management of ABNJ have been identified by the 10th CBD Conference of the Parties (COP 10), which include: Lack of institutional, managerial, technical, scientific, human resources, and financial resources; poor understanding of capacity needs at various levels in the context of cross-sectoral management; and limited information base (lack of policy-relevant information to support decision-making; inadequate coordination of existing knowledge). In order to address those gaps, the Sustainable Ocean Initiative (SOI) was launched at COP 10 as a global platform to build partnerships and link efforts to enhance capacity to achieve the Aichi Biodiversity Targets. An Action Plan for the SOI (2015-2020) includes capacity development activities at the global, regional, and national levels. (Cooper and Stofen-O'Brien, 2015).

Key areas – multi-sector area-based planning

In view of current and future directions in area-based management initiatives in ABNJ, capacity in terms of tools and approaches as well as individual expertise, institutional capacity, and the enabling environment to implement them are needed. Area-based planning and management will require the development of a legal basis, delineation of jurisdiction, stakeholder engagement, establishment of access rights and benefit sharing, constant infusion of science-based information for policy-making, planning and management, as well as day-to-day management and enforcement (Alder, 2015).

Public education and outreach in ABNJ

The primary focus of nations regarding marine resources has historically been on their coastal zones and 200-mile Exclusive Economic Zones (EEZs), with national attention only recently expanded to encompass the ocean areas beyond national jurisdiction. However, there are a number of factors that inhibit the development of global capacity for the management of fisheries and conservation of biodiversity in ABNJ. Global ABNJ discussions have remained largely sectoral and the capacity of decision-makers and global and regional management institutions is weak, especially in developing countries, because of the lack of reliable and timely information about ABNJ issues, among other reasons. Generally, there is little coordination and dialogue among ongoing ABNJ discussions at the

global and regional levels. In many cases, relevant knowledge and experience that could contribute to improved management, including sectoral knowledge and experience from management within EEZs, is not incorporated adequately into these on-going policy discussions and many stakeholders and high-level decision-makers with relevant experience and whose work deals directly with ABNJ management are not yet engaged. Often, countries do not prioritize ABNJ issues and focus resources solely on ocean issues within national jurisdiction. This lack of prioritization is most prevalent in developing countries with limited capacity. To some extent, inadequate management of ABNJ is also due to the limited availability and access to information on the status of the ecosystems and the emerging impacts of climate change; extent of the commercial and scientific activities being undertaken; and various policy options and approaches for managing ABNJ. The lack of public outreach and awareness regarding ABNJ issues is evident, with the vast majority of the general public having limited knowledge of ABNJ issues and little appreciation of the urgent need to address pressing threats to ABNJ. Educating the general public on ABNJ issues is a huge challenge - media are not interested, ABNJ are unknown and unfamiliar to, and far from the minds of, the general public (Vallette, 2015).

Recognizing the importance of ABNJ in our daily lives, there is a need to bridge the gap between stakeholders, citizens and ABNJ specialists and decision makers. Efforts by museums and aquaria to bridge this gap could include: Showing the spectacular animals and sceneries in ABNJ; sharing the adventure of exploring the high seas; and showing the importance of ABNJ in our daily lives through concrete examples. (Vallette, 2015)

Raising public awareness will require education (sharing information), engagement (making connections), and inspiration (prompting change) among the public on ABNJ. It will involve public outreach, provision of information and tools, and building relationships with key players and stakeholders in ABNJ, through communicators including journalists, practitioners, scientists, academics, decision-makers, aquaria (Farmer, 2015).

The Common Oceans Program connects a variety of partners from governments, regional management bodies, civil society, the private sector, academia and industry to reach a common goal of sustainable use and conservation of biodiversity and ecosystem services of ABNJ. The Capacity Project will be coordinating the dissemination of knowledge generated and lessons learned from all of the ABNJ projects to stakeholders through coherent and coordinated messaging and outreach mainly through the Public Outreach Network (see Box 3 for the salient points raised at the Public Outreach Network Meeting held on 17 February 2015 during the ABNJ Workshop at FAO in Rome). It will develop synergies among the other projects in the Common Oceans Program, and synthesize and disseminate lessons learned, experiences and best practices to relevant stakeholders, including governments, organizations with competence in ABNJ, and global and regional ABNJ processes. This project will work closely with the other projects in the Common Oceans Program, with the Common Oceans Communications Team, and with IW:LEARN to ensure that the knowledge generated and lessons learned emanating from the activities of all four projects under the Common Oceans Program reach a wide range of stakeholders at global and regional levels. (Farmer, 2015).

Box 3

Salient points raised at the Public Outreach Network Meeting held on 17 February 2015 during the ABNJ Workshop at FAO in Rome:

1. Public education and outreach in ABNJ faces multiple challenges: a) communicating a subject matter that is distant, remote, cannot be touched, and yet important since ABNJ is highly interlinked with other coastal and other marine areas closer to shore; b) information about ABNJ is not readily available; c) ABNJ is not a priority among decision-makers at the national level.
2. Messages about ABNJ to the public need to be communicated and amplified until issues are brought up to decision-makers. Ideas and suggestions on the messages and how to communicate them effectively need to be captured and used. This can be done through a network of scientists, practitioners, and communicators.
3. Public outreach can be carried out at different levels (individual, national, regional) for different purposes. For example, public outreach to individuals aims to change human behavior that affects the ABNJ environment and resources due to the interlinkages in the oceans; public outreach to policy makers aim to inform the policy processes in order to come up with relevant policies.
4. Public outreach in ABNJ needs to communicate the principles why ABNJ is important and what principles apply, including the common heritage of mankind and the freedom of the seas.
5. Public outreach in ABNJ needs to be linked with existing/forthcoming public outreach initiatives of concerned organizations, e.g. use the proposed '2016/17 Year of the Whale' in the Pacific island region for delivering messages on ABNJ as well.
6. Oil exploration in ABNJ is another attractive topic to use, which ties in with economic motivation and poverty alleviation for the management of ABNJ.
7. One consistent message on ABNJ, repeated in different ways and tailored to address different audiences, which would vary depending on location, whether in developed or developing countries, may be useful.
8. We need to emphasize the uniqueness and importance of ecosystems and resources in ABNJ as part of the common heritage of mankind.
9. We have to press the point that people are directly dependent on the high seas and that it is in their interest to improve the management of ABNJ.
10. We need to identify the organizations that have the comparative advantage of reaching out to specific stakeholders and audiences.
11. We can learn from the example of Arctic communities who are very engaged in ABNJ through the ecologically or biologically marine areas (EBSA) process and the Arctic Council because they see the direct link of high seas fishery resources and migratory species to their lives and livelihoods as well as the impact of climate change and the need to build resilience. Migratory species may play the role of connecting life in the coast and in the high seas.
12. How we use MGRs in pharmacological and other products developed from living resources in ABNJ can also help to show the public's connection to the high seas.
13. Local leaders as well as international icons may be effective in communicating ABNJ messages.
14. We have to use a variety of media and methods in communicating ABNJ to the public, including social media.



6. EXPERIENCES, CHALLENGES AND OPPORTUNITIES IN SELECTED REGIONS

The following summarizes the experiences and lessons learned as well as the priorities and opportunities in ABNJ management in the following regions: in the South Atlantic and Indian Ocean, North Atlantic and the Mediterranean, and in the Pacific, based on the presentations given by experts from the regions, information from the regional break-out group discussions held during the workshop, and from existing literature (reports and other publications) reviewed on the topic.

North Atlantic and the Mediterranean *Introduction*

The Atlantic Ocean is characterized by high productivity on continental shelves and marine ridges and high biodiversity. The Northeast Atlantic Ocean (see Figure 1), which includes the European part of the Atlantic, is a vast area of about 13.5 million km² which covers a diverse range of environmental conditions and different ecosystems. It is a highly productive area where the most valuable fishing areas, many unique habitats and ecosystems, and the largest oil and gas reserves in Europe are found (IOC-UNESCO, 2012). The Northeast Atlantic has been exploited for food and other natural resources, transport and fossil fuel with adverse environmental effects including overfishing, marine pollution, and introduction of invasive species (Alexander *et al.*, 2015).

The North West Atlantic region (7 024 717 km² surface area) covers the continental shelf and slope areas off Atlantic Canada and New England, majority of which falls within the jurisdiction of Canada and the United States, the area surrounding St. Pierre and Miquelon is under French authority, while the Nose and Tail of the Grand Banks and Flemish Cap extend into international waters. The region, composed of a wide variety of ecosystems, from productive coastal estuaries to unexplored submarine canyons harboring a rich diversity of plants and animals, is best known for its large populations of commercial groundfish, such as Atlantic cod or haddock, although hundreds of other fishes occur there as well. Invertebrates, including lobster, shrimp and around 30 species of cold-water corals are also found in the region, which is also an important stopover site for many highly migratory species, including the blue whale, numerous seabirds, large pelagic fishes such as tunas and the leatherback turtle. Human uses include fisheries, shipping, exploration and exploitation of oil and gas; and increasingly aquaculture and tourism. Key threats include the ecosystem impacts of overfishing, bottom-impacting gear and bycatch; illegal dumping of bilge oil, and climate change-induced changes to currents and water temperatures. (Protect Planet Ocean, no date)

The Mediterranean Sea (2.5 million km² surface area) (see Figure 1) is almost a closed basin, connected to the Atlantic through the Strait of Gibraltar. For this reason, the Mediterranean Sea faces eutrophication and pollution that threaten waters that are high in biodiversity but low in productivity, with 67 percent of species specific to the region and is home to 6 percent of the total

world fauna in less than 1 percent of the total ocean area. The introduction of invasive species is also a major threat to biodiversity in the region. Vulnerable species include red corals, sea birds, sea turtles, monk seal, cetaceans, sharks and rays (Bernal, 2015).

These regions have well-established environmental governance structures involved in the management of ABNJ in the North Atlantic and the Mediterranean, including the Northeast Atlantic Fisheries Commission (NEAFC), the Northwest Atlantic Fisheries Organization (NAFO), the General Fisheries Council for the Mediterranean (GFCM), the Oslo-Paris Convention on the Protection of the Marine Environment in the North-East Atlantic (OSPAR) Commission, and the UNEP Mediterranean Action Plan Regional Activity Centre for Specially Protected Areas. Other regional organizations that are active in the region are listed in Box 4.

In the Northeast Atlantic, NEAFC employs a number of management measures, which include total allowable catch (TACs) and allocation, technical measures, control and enforcement, and protection of VMEs (Asmundsson, 2015). In the Northwest Atlantic, NAFO uses working groups to better improve catch reporting (to generate more accurate data on which to base scientific advice and fisheries management decisions); develop risk-based management strategies applying the precautionary approach to the reopening of fisheries; identify VMEs and adopt their closures; and develop an Ecosystem Approach Roadmap (Kingston, 2015). In the Mediterranean, the GFCM is mandated to adopt spatial management measures in ABNJ through the establishment of Fisheries Restricted Areas (FRAs) that involve fisheries restrictions (limit or prohibit certain fisheries/gears) within a delimited area (Bernal, 2015).

The OSPAR Commission has established six new conservation areas in international waters in the North Atlantic, including the Charlie-Gibbs Marine Protected Area (WWF and BFN no date). In the Mediterranean, RAC/SPA and MedPAN have been working alongside their partners (IUCN, WWF, local NGOs, research organizations) to establish an ecological network of MPAs to protect at least 10 percent of the marine and coastal waters which is representative of the Mediterranean's diversity and made up of ecologically interconnected and well managed MPAs, in accordance with the latest guidelines from the CBD and the Barcelona Convention. Since 2008, 23 MPAs have been established in 10 countries amounting to an additional area of 6 754 km² which represents close to a 7 percent increase of the protected surface area in 5 years in comparison to the 2008 protected surface area of 97 410 km², or 4 percent of the Mediterranean (MedPAN and RAC/SPA 2012). Although, none of these areas are in international waters, these MPAs are important in light of the highly interconnectedness of ocean zones and the almost closed form of the Mediterranean Sea.

There are 65 international treaties regulating the various maritime activities in the Mediterranean Sea and the Black Sea, 29 of which are most relevant the Mediterranean Sea, with only one signed by all the coastal states (Suarez de Vivero, 2015).

The Sargasso Sea, although not covered by discussions held by breakout groups at the Workshop, provides some lessons learned in the management of ABNJ as presented in plenary at the workshop (see Freestone, 2015 and Box 5).

Major issues and challenges facing management of fisheries, biodiversity and other ABNJ uses in the North Atlantic and the Mediterranean

It is clear that the North Atlantic and the Mediterranean are quite different environments although they have certain commonalities. How much of the Mediterranean could count as ABNJ and how the ABNJ in that region could be compared with the North Atlantic have to be taken into consideration.

The main issues in the North Atlantic and Mediterranean are the overexploitation of fisheries and pollution which extends from the EEZs to ABNJ. These issues, in turn, pose significant impacts on biodiversity in these regions, and exacerbated by the lack of information and monitoring in the high seas.

In comparison with other regions, the North Atlantic and the Mediterranean lead other regions in terms of management measures in place. However, the North Atlantic and the Mediterranean still face a host of implementation issues.

- The EAF approach has not been operationalized from theory to practice at the regional level. The fisheries are a leading example in the implementation of the ecosystem approach but there is a need to further develop common fisheries and biodiversity agendas among regional organizations. NAFO is moving forward with EAF implementation through the development of the NAFO Roadmap to Ecosystems Approach to Fisheries, which aims to lay out the organizing framework to develop an EAF for NAFO. The NAFO Roadmap is based on the concept of Integrated Ecosystem Assessment, which is a tool for use in integrating scientific knowledge and analysis with ecosystem management actions within the framework of ecosystem-based management (Levin *et al.*, 2009; ICES, 2013). The Roadmap is not a fixed plan; as its name indicates, it is a guiding set of ideas which evolve as it is developed and implemented, providing flexibility for addressing gaps (NAFO, 2014).
- Sharing information between and among regional organizations to implement the ecosystem approach is important for ABNJ. Understanding what the risks are and what the different human activities that pose adverse impacts on the environment and resources in ABNJ is needed. Although it appears that there aren't that many human activities within ABNJ, this does not make it easier to implement the ecosystem approach.
- There is complexity in ensuring that baseline data for management is in place, in communicating and coordinating data and information, and in using data and information for control and enforcement. There are examples where control and enforcement are good, such as MCS in fisheries, but new technologies are needed in other areas.
- Developing the political will for making ABNJ a priority for governments compared to other pressing issues is clearly a challenge.
- Despite the existence of relatively advanced institutional frameworks in these two regions, tensions and dynamics in both regions remain, e.g. legal uncertainty related to mixed jurisdictions (political jurisdictions where two or more institutional frameworks apply) in the Mediterranean, tensions and different agenda among the contracting parties for the OSPAR Convention.
- There are imbalances in ABNJ capacity at national levels and within regions.

Knowledge and information that exists within different sectors and organizations to address these challenges

The North Atlantic and the Mediterranean are relatively well-placed in terms of ABNJ knowledge and information that exists, compared to many other regions.

- There is access to long-term series of high quality data. For example, in NAFO, they have Joint Fisheries Commission and Scientific Council Working Groups who are addressing the need for more accurate catch reporting data on which to base scientific advice and fisheries management decisions (Kingston, 2015). However, the availability and quality of data depend on specifics, on what information is needed and what will it be used for.
- There appears to be sufficient strategic information to understand trends, e.g., in long-term pollution data. However, existing datasets are not necessarily relevant to issues in ABNJ since the datasets have been primarily drawn together from coastal and marine regions, not much from deeper and offshore waters in ABNJ.
- There are quality assurance mechanisms that have been well used. The ICES and Scientific Committees of the NAFO and GFCM are useful and important in terms of knowledge and information.
- Both regions have a track record of monitoring and assessment to inform decision-making over a long time and have used resources to take advantage of global datasets to add to that information. Examples of these resources include: 1) EMODnet (European Marine Observation and Data Network), a consortium of organisations assembling European marine data, data products and metadata from diverse sources in a uniform way; 2) MAPAMED (Marine Protected Areas in the Mediterranean) - a GIS database; and 3) MedMIS an online information system for monitoring invasive non-native species in Mediterranean MPAs.

Best practices in ABNJ

At the workshop, best practices have been identified in fisheries management, biodiversity conservation and management of other uses in ABNJ; in sectoral collaboration in ABNJ; and in linking global, regional and national initiatives in ABNJ, as follows:

- There are institutional frameworks in place in both regions which provides regional organizations the ability to make binding hard law, such as RFMO/RSC decisions and recommendations for improving the level of synergy towards common strategies. Examples of these frameworks are the Convention on the Future Multilateral Cooperation in North-East Atlantic Fisheries (NEAFC), the NAFO Convention, and the Bonn Agreement.
- The EU Directives, which provide targets, standards, and guidance to member countries in ocean management and governance, such as the Marine Strategy Framework Directive, Marine Spatial Planning Directive, and the Atlantic Action Plan, provide another set of best practices applicable to ABNJ.
- Both regions have been strong in establishing a case for the protection of ABNJ based on scientific information, e.g., the long-term data series for the Sargasso Sea, which have been used in establishing management measures in the area, NAFO/NEAFC datasets, and the OSPAR quality status reports.
- There are successes in maintaining sustainable fish stocks, recovering fish populations, reduction in IUU fishing that can be identified in these regions. Examples include the use of

- technical (mesh size limitations, seasonal closures for spawning, conversion factors, fishing gear limits), and control and enforcement measures (at sea inspections, VMS system, Port State control, control of non-contracting Parties, and IUU lists) (Asmundsson, 2015b).
- The use of long-term management plans, such as the ACCOBAMS plan, is another best practice that can be reported from these regions. The ACCOBAMS (Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area) is a cooperative tool for the conservation of marine biodiversity in the Mediterranean and Black Seas, whose aim is to reduce threats to cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals (ACCOBAMS no date).
- These two regions have been proactive in putting forward precautionary approaches, for example, precautionary area-based measures such as VMEs, MPAs, and Specially Protected Areas of Mediterranean Importance (SPAMI).

Gaps to be addressed in the Management and Governance of ABNJ

Among the management gaps identified in the two regions is the lack of sustainable and secure funding, which is needed to fill in all the other gaps in resources and mechanisms that have been identified, including the capacity to carry out existing and implement new measures. These gaps include:

- Specific data requirements, e.g. human uses (other than fisheries) and their impacts, deep-sea habitats and species, invasive species, Mediterranean VMEs, and socio-economic data in particular;
- Modeling cumulative impacts and interactions between human activities as well as the methodology to account for the impacts;
- A comprehensive legal regime as well as improved implementation of existing measures;
- Fisheries-specific gaps including agreements on stock allocations and future allocations on other stocks that are not currently included within the RFMOs' purview;
- Communication and coordination within administrations; and
- Marine spatial planning or maritime spatial planning within ABNJ.

Future activities and research

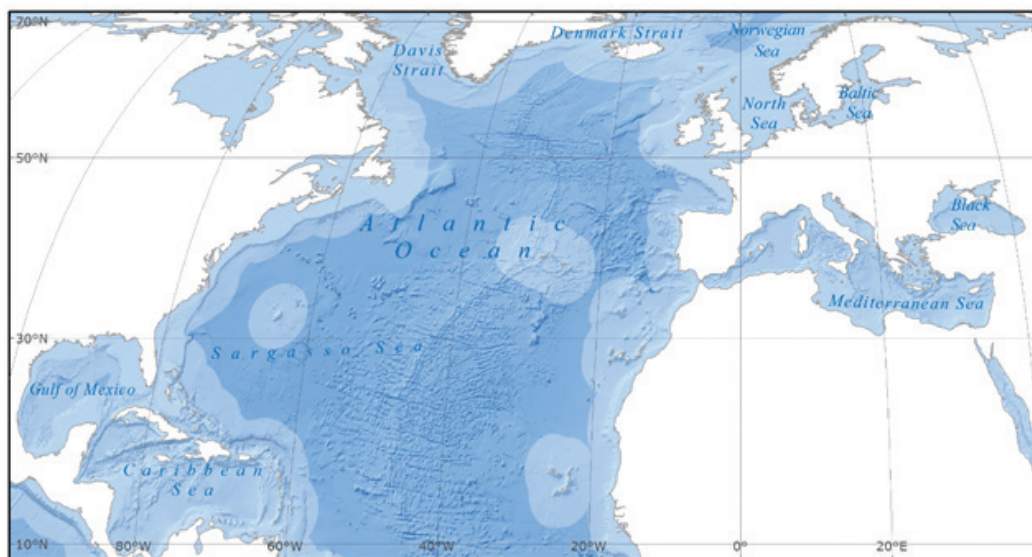
There were differences in priorities between the two regions, although there are common ones considered important by both regions, including:

- Devising joint funding strategies and understanding the scope of financial instruments;
- Strengthening inter-sectoral cooperation/collaboration. For example, the use of inter-operable databases promoting joint work (compare NAFO and NEAFC/OSPAR) has started in some areas but still needs to mature;
- Improvement of the legal framework – both existing and new – acknowledging these regions are already in a relatively strong position;
- Enabling stronger integration in building future scenarios, e.g. making use of EBSA descriptions; and
- Developing a common understanding of ecosystem function and structure vis-à-vis biodiversity conservation and maximum sustainable yield.

Box 4

ABNJ Management and Governance Framework in the North Atlantic and the Mediterranean

Figure 1. The North Atlantic and the Mediterranean Sea (in light blue, areas delimited with arcs located at a distance of 200 nautical miles from the baseline, extracted from the VLIZ MarBound database).



Sources: IOC, IHO and BODC, 2014; IHO and IOC, 2016; Claus et al. 2014; ESRI et al., no date.

Geographic scope

North Atlantic:

includes Baltic Sea, Black Sea, Caribbean Sea, Davis Strait, Denmark Strait, Gulf of Mexico, Mediterranean Sea, North Sea, Norwegian Sea, and other tributary water bodies

NAFO's Regulatory Area (NRA) (areas straddling and outside the EEZs [exclusive economic zones]) is 2 707 895 km².

NEAFC's Regulatory Area: The NEAFC Convention Area covers the Atlantic and Arctic Oceans east of a line south of Cape Farewell - the southern tip of Greenland, (42° W), north of a line to the west of Cape Hatteras - the southern tip of Spain, (36° N) and west of a line touching the western tip of Novya Semlya (51°E), and excludes the Baltic and Mediterranean Seas. Most of this area is under the fisheries jurisdiction of NEAFC's Contracting Parties, as it is defined as their national waters, but three large areas are international waters and constitute the NEAFC Regulatory Area (see Figure 2). (NEAFC, no date)

Box 4 continued...

Figure 2. NEAFC's Regulatory Area.



(Source: NEAFC, no date)

Mediterranean:

Area: 965 300 sq miles (2.5 million km²)

The countries with coastlines on the Mediterranean Sea are Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Monaco, Montenegro, Northern Cyprus (recognized only by Turkey), Palestinian territories, Slovenia, Spain, Syria, Turkey, Tunisia, and the United Kingdom (Gibraltar and British Cyprus).

Primary uses of ABNJ

Fisheries, shipping, dumping and dredging, offshore renewable energy, oil and gas exploration, coastal defense and other structures, cables and pipelines, artificial reefs, land reclamation, sand and gravel extraction, mineral extraction, tourism, mariculture, marine litter, underwater noise, dumping of munitions, biodiversity conservation, bio-prospecting/marine genetic resources.

Box 4 *continued...*

Regional institutions

European Commission Directorate-General for Maritime Affairs and Fisheries (DG Mare)
http://ec.europa.eu/dgs/maritimeaffairs_fisheries/index_en.htm

International Council for the Exploration of the Sea (ICES) www.fao.org/fishery/rfb/ices/en

International Commission for the Conservation of Atlantic Tunas (ICCAT) www.iccat.int/en/

Northwest Atlantic Fisheries Organization (NAFO) www.nafo.int

Northeast Atlantic Fisheries Commission (NEAFC) www.neafc.org

North Atlantic Salmon Conservation Organization (NASCO) www.nasco.int

International Baltic Sea Fishery Commission (IBSFC) <https://stats.oecd.org/glossary/detail.asp?ID=1398>

Oslo-Paris Convention on the Protection of the Marine Environment in the North-East Atlantic (OSPAR) www.ospar.org

General Fisheries Council for the Mediterranean (GFCM) www.gfcm.org/gfcm/en

UNEP Mediterranean Action Plan Regional Activity Centre for Specially Protected Areas
www.rac-spa.org

Sub-Regional Fisheries Commission (SRFC) www.fao.org/fishery/rfb/srfc/en

Regional Convention on Fisheries Cooperation Among African States Bordering the Atlantic Ocean
www.tematea.org/?q=node/6546

Regional Fisheries Committee for the Gulf of Guinea (Comité régional des pêches du Golfe de Guinée (CORÉP) www.fao.org/fishery/rfb/corep/en

North Atlantic Marine Mammal Commission (NAMMCO) www.nammco.no

Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) www.accobams.org/index.php?option=com_content&view=category&layout=blog&id=68&Itemid=1

IUCN Centre for Mediterranean Cooperation

www.iucn.org/about/union/secretariat/offices/iucnmed/

WWF Mediterranean Programme Office

<http://mediterranean.panda.org/>

Network of Managers of Marine Protected Areas in the Mediterranean (MedPAN)

www.medpan.org/en/decouvrir

Other institutions

- International Maritime Organization (IMO) www.imo.org/pages/home.aspx
- International Seabed Authority (ISA) www.isa.org.jm
- Government agencies (e.g., FMPAA)
- Academic institutions

Box 5

Sargasso Sea

The Sargasso Sea is a body of water with an area of over 4 million km² located in the North Atlantic, which is basically a gyre bounded by ocean currents on all sides, east of the Gulf Stream, with the Antilles Current to the south, the North Equatorial Current to the southeast, the Canary Current to the east, and the Azores Current to its northeast. Called a sea without a coast because the small coast that it has is actually off the archipelago of Bermuda, the Sargasso Sea is named after the seaweed *Sargassum*, which is actually held in place by the gyre. The pelagic *Sargassum* reproduces without contact with the ground, and comprises the structure that aggregates fish and other marine organisms within a unique open ocean ecosystem, most of it in the high seas although part of it includes the EEZ of Bermuda.

Endangered European and American eels migrate to the Sargasso to breed. Wahoo, tuna and other pelagic fish as well as a number of whale species, notably sperm whales and humpbacks forage in and migrate through the Sea. The Sargasso Sea supports a range of endemic species and supports the life cycle of a number of threatened and endangered species such as the Porbeagle shark, the American and the European eel, as well as billfish, tuna and several species of turtle, migratory birds and cetaceans. The *Sargassum* mats harbor many endemic species and provide a protective 'nursery' for juvenile fish and turtles.

The Sargasso Sea is threatened by the: 1) adverse impacts from ships and shipping including underwater noise, damage to *Sargassum* mats, chemical discharges and ballast water exchange; 2) pollution from floating debris including plastics; 3) overfishing and the negative impacts of fishing including by-catch and habitat damage; 4) future harvesting of *Sargassum* seaweed; and 5) climate change.

The Sargasso Sea Alliance was established in 2010 by the government of Bermuda together with leading conservation and marine science organizations and individuals, including International Union for the Conservation of Nature (IUCN) and its World Commission on Protected Areas, Mission Blue/Sylvia Earle Alliance, Marine Conservation Institute, Woods Hole Oceanographic Institution, Atlantic Conservation Partnership, Bermuda Institute for Ocean Sciences (BIOS), Bermuda Underwater Exploration Institute (BUEI), and WWF International. The Alliance aimed to: 1) achieve international recognition of the importance of the Sargasso Sea; 2) work with international sectoral organizations to achieve better protection for the Sargasso Sea in accordance with UNCLOS; 3) assess what can and what cannot be delivered through existing institutions and policy frameworks.

The first step taken by the Sargasso Sea Alliance was to collate scientific and other supporting evidence for the importance of the Sargasso Sea, which formed the basis for a scientific case to: 1) develop international recognition for the Sargasso Sea; 2) start the process of establishing appropriate management and precautionary regimes within existing international ocean agreements; and 3) stimulate a wider debate on appropriate management and protection for the High Seas.

Box 5 *continued...*

Over the course of four years, highlights of the work carried out by the Sargasso Sea Alliance include:

- Raised awareness of the ecological importance of the Sargasso Sea with the support of a large number of countries including South Africa, the Bahamas, Monaco, the UK and the US;
- Interacted with RFMOs (e.g., NAFO, ICCAT) towards the development of an ecosystem-based approach to fisheries in the Sargasso Sea and with IMO on the possibility of establishing a MARPOL special area or other appropriate measure considering that the Sargasso Sea is part of a major shipping route.
- Worked with Monaco in the listing of *Anguilla anguilla* under Appendix 2 of the Convention on the Conservation of Migratory Species of Wild Animals, which provides for international collaboration for the protection of this species and the areas in which it spawns in the Sargasso Sea.
- Established the Sargasso Sea Commission, pursuant to the Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea, signed on 11 March 2014, by the governments of the Azores, Bermuda, Monaco, UK and US. The Commission is tasked to “encourage and facilitate voluntary collaboration toward the conservation of the Sargasso Sea.” Though lacking in management authority, the Commission will “exercise a stewardship role for the Sargasso Sea and keep its health, productivity and resilience under continual review.”
- Conducted a submarine cable workshop in October 2014 in Washington DC, co-sponsored by the International Cable Protection Committee, which provided a venue for a dialogue between the submarine cable industry and the Sargasso Sea Commission regarding best environmental practices for the laying and maintenance of cables in high seas areas, such as the Sargasso Sea.

Sources: Sargasso Sea Commission, no date; Laffoley et al. 2011; Freestone, 2015.

The Pacific Region

Introduction

The Pacific is a large area, covering more than 155 557 million km², about 28 percent of the planet (CIA, no date). Given the size of the Pacific, ocean resources are a major area for economic development - shipping provides low cost transportation between East and West, over 60 percent of the world's fish catch came from the Pacific in 1996, and extractive resources (oil and gas, minerals, sand and gravel) are vital for the energy and construction industries (CIA World Factbook, no date). The large size of the Pacific has led to regionalism and differing methods to manage resources and govern the ocean space; however, examples for cooperation and coordination can also be found. The focus for this summary will be the Pacific Islands region and the Southeast Pacific.

Pacific Islands region. The Pacific Islands Region makes up more 40 million square kilometers (Pratt and Govan, 2010). Many nations have more ocean than land area (Brierley, 2015), making ocean governance essential to these nations. The fishing, mining, tourism, and shipping industries are vital

for transport, culture, food security, and livelihoods. Most of the water and fishery resources are in national jurisdiction (Norris, 2015), meaning EEZ management and regional cooperation for the pockets of ABNJ is essential. ABNJ plays an important role for migratory species, key for successful tourism (Brierley, 2015). Regional effort and unity are needed for management of resources within and beyond areas of national jurisdiction (Brierley, 2015). Stakeholder inclusion is essential as is collaboration (Brierley, 2015).

There are many agencies involved in this region, ranging from political groups to environmental and fisheries focused groups, which has led to many areas for coordination and cooperation within and outside the region. A source for this coordination and cooperation is the Pacific Islands Forum. The Pacific Islands Forum, founded in 1971 and based in Suva, Fiji, is a political grouping of 16 States¹¹ whose mission is to effectively implement Leaders' decisions for the benefit of the people of the Pacific. By providing policy advice and guidance, assistance and coordination, and support for meetings and working groups, the Forum's goals are to "stimulate economic growth and enhance political governance and security for the region, through the provision of policy advice; and to strengthen regional cooperation and integration through, coordinating, monitoring and evaluating implementation of Leaders' decisions" (Pacific Islands Forum Secretariat, no date). The Forum Secretariat coordinates and implements the Framework for Pacific Regionalism, the principle policy framework for Pacific, which features inclusive political dialogue, key values, and objectives of sustainable development.

The number of Regional Fishery Management Organizations (RFMOs) that manage ABNJ resources has increased in the last five years, with two RFMOs coming into force recently and one more in the North Pacific that should come into force shortly. These additions greatly increase the coverage of RFMOs for demersal species. RFMOs have been changing rapidly over the last decade, with new pressure from the global community and new focuses on reducing and mitigating impacts from the fisheries, as well as new partnerships with other regional organizations from different sectors. The Pacific Islands Forum Fisheries Agency (FFA) works to strengthen the national capacity of its 17 members¹² and obtain regional solidarity for the management, control, and development of tuna fisheries, through enforcement, sharing of information and assets, and taking a common position in international fora. The Nauru Agreement¹³, implemented and coordinated by FFA, sets terms and conditions for tuna purse seine fishing licenses and has led to management at the sub-regional level.

Other organizations involved in the region include: Commission for the Conservation of Southern Bluefin Tuna (CCSBT - www.ccsbt.org), Secretariat of the Pacific Community (SPC - www.spc.int/), Secretariat of the Pacific Regional Environment Programme (SPREP - www.sprep.org/), South Pacific Forum Fisheries Agency (FFA - www.ffa.int/), South Pacific Regional Fisheries Management Organization (SPRFMO - www.sprfmo.int/), Western and Central Pacific Fisheries Commission (WCPFC - www.wcpfc.int/).

¹¹ Members: Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

¹² Members of FFA: Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

¹³ Parties to the Nauru Agreement: Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands, and Tuvalu. For more information: www.ffa.int/node/93

Southeast Pacific. The Southeast Pacific region comprises of the entire Pacific coast of South America, from Panama to Cape Horn, with a coastline of 16 000 km (UNEP, no date). There is a diversity of ecosystems in this region, ranging from coral reefs, mangrove forests, kelp forests, wetlands, beaches and dunes, open ocean, and islands (UNEP, no date). Two Large Marine Ecosystems are present in this region, the Humboldt Current and the Pacific Central American Coastal, and fishing grounds off the South American coast are some of the most productive in the world (UNEP, no date). Issues in the region include coastal and marine degradation from pollution, habitat destruction and species loss, and overexploitation of resources (UNEP, no date).

The Permanent Commission for the South Pacific (CPPS) operates as a coordinating body for Member States¹⁴ and other agencies of the international community to ensure a healthy and resilient Southeastern Pacific for present and future generations. Its mission is to “coordinate and promote maritime policies of Member States for the conservation and responsible use of natural resources and environment for the benefit of comprehensive and sustainable development of their peoples” (CPPS, no date). CPPS also implements the South-East Pacific Action Plan¹⁵, adopted in 1981 and focuses on implementation of existing legal instruments, developing transboundary pollution monitoring and control programs, protection of threatened species, prevention of invasive species, and public education and awareness (UNEP, no date). Some of the other projects in which CPPS is involved includes: participation as observers in the ABNJ Working Group¹⁶ as well as in regional fishery organizations; a pilot project on “Partnership on Regional Ocean Governance;” GEF program “Global Sustainable Management of Fisheries and Conservation of Biodiversity in Areas Beyond National Jurisdiction;” vulnerable marine ecosystem (VME) and ecologically or biologically significant areas (EBSA) planning; Action Plan for the Conservation and Management of Sharks, Stingrays and Chimeras in the Southeast Pacific; small scale fisheries and gender; reducing marine litter; SPINCAM Project – Governance and Planning Management and Decision Making in the Integrated Management of the Coastal Zone; tsunami warning systems; and creation of marine protected areas. This diversity of work has resulted in much to share with other organizations as well as much to learn from those organizations.

The Inter-American Tropical Tuna Commission¹⁷ (IATTC) was established “to ensure the long-term conservation and sustainable use of tuna and tuna-like species,” as well species caught as by catch¹⁸. The commission maintains a database of authorized vessels or known to fish in the eastern Pacific for tuna and tuna-like species. The IATTC is also the secretariat for the Agreement on the International Dolphin Conservation Program (AIDCP).

¹⁴ Member States of CPPS: Chile, Colombia, Ecuador, Peru.

¹⁵ Participating countries: Chile, Colombia, Ecuador, Panama, Peru.

¹⁶ 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

¹⁷ www.fao.org/fishery/rfb/iattc/en

¹⁸ IATTC members: Belize, Canada, China, Taiwan Province of China, Colombia, Costa Rica, Ecuador, El Salvador, European Union, France, Guatemala, Kiribati, Japan, Mexico, Nicaragua, Panama, Peru, Republic of Korea, United States of America, Vanuatu, Rep of Venezuela. Cooperating Non-Members: Bolivia (Plurinational State), Honduras, Indonesia, Cook Islands.

South Pacific Regional Fisheries Management Organisation¹⁹ (SPRFMO) is also involved in the region, tasked with long-term conservation and sustainable use of fishery resources of the South Pacific, as well as the marine ecosystems of those resources. SPRFMO has a Commission with 13 Members as well as Cooperating non-Contracting Parties²⁰. Fishery resources for SPRFMO is a wide definition, covering all fish, including molluscs, crustaceans, and other living marine resources as decided by the Commission, but does have some exclusions, such as highly migratory species, marine mammals, marine reptiles, and sea birds (SPRFMO, no date).

Issues/challenges facing management of fisheries, biodiversity, and other ABNJ uses in the region

Fisheries are a great resource of the Pacific, and some species are trans-Pacific, meaning there is overlap areas for highly migratory stocks. Different management styles of RFMOs need to be harmonized, while taking into account different sub-regional priorities, and there is a need to ensure stronger and more effective linkages between RFMOs and in the Pacific. These linkages are essential to more effective management of ABNJ and associated resources. There are examples of existing harmonization and joint work, such as memoranda of understanding²¹ (MoU) between the Western Central Pacific Fisheries Commission (WCPFC) and IATTC and joint work on stock assessments between the Secretariat of the Pacific Community (SPC) and IATTC, which can be built upon and expanded. The MoU establishes consultation, cooperation, and collaboration for exchange of data and information; research related to stocks and species of mutual interest, including stock assessments; and conservation and management measures for stocks and species of mutual interest. This cooperation is built upon reciprocal participation in meetings; information sharing; harmonization and compatibility of management measures, including those related to monitoring, control, and surveillance; and exchange of meeting reports, information, research data and results, project plans, documents, and publications. The MoU also establishes a consultative meeting between the Secretariats of WCPFC and IATTC to review and enhance cooperation between the two bodies.

Another challenge is the compatibility of management regimes, which can contribute to confusion and conflict with distant water fishing nations and coastal States, and between RFMOs and other interests. There are difficulties in sectoral cooperation and coordination and a need for sectoral collaboration at all levels, national through international. Clear and open dialogue is required between fisheries organizations and interests within these organizations, including committing to public-private partnerships. Better dialogue between fisheries and other organizations including those charged with marine biodiversity is also important. Examples of this better dialogue is cooperation between CPPS and IATTC or between South Pacific Forum Fisheries Agency (FFA) and the Secretariat of the Pacific Regional Environment Programme (SPREP) in the context of the Council of Regional Organisations in the Pacific (CROP). There is also a need to better integrate

¹⁹ www.sprfmo.int/

²⁰ SPRFMO Members: Australia, Republic of Chile, Cook Islands, European Union, Republic of Korea, Russian Federation, Republic of Vanuatu, Belize, People's Republic of China, Republic of Cuba, Kingdom of Denmark in respect of the Faroe Islands, New Zealand, Chinese Taipei. Cooperating non-Contracting Parties: Columbia, Ecuador, France (territories), Republic of Liberia, Republic of Panama, Republic of Peru, and United States of America.

²¹ www.wcpfc.int/system/files/WCPFC-IATTC%20Memorandum%20of%20Understanding.pdf

non-fish species into management, including by allocating time and financial resources for whole management. This integrated management needs to take into account not only tuna, but seabirds and other species as well.

Other issues/challenges include: capacity; cost of monitoring and evaluating in ABNJ; national level capacity to engage across sectors; integration between fisheries and other uses, such as deep sea mining; integrating non-fish species into fisheries management; marine pollution; maritime boundary disputes in some ABNJs in the region, and climate change.

Existing knowledge and information from different sectors and organizations that can be used to address the issues/challenges

Lack of knowledge is not always the issue for the Pacific. It is often the lack of coordination, awareness, and sharing of data. This is often compounded by lack of impetus or incentive to share information between organizations. Flag States keep data and there is little to no sharing across regions or sectors. Industry often holds better information (e.g. bathymetric data) than governments/IGOs, but this information is often guarded. Cumulative data is available at a macro scale, but information on a finer scale, such as for stock assessments, is not. Information used for one purpose (e.g. maritime boundary delineation or geological surveys for the seafloor in relation to mining) may be useful for other purposes, but is not always shared, sometimes unintentionally. Information is key for broader and more effective management, and sharing of data would enhance and improve cross-sectoral management in ABNJ. Information on species other than fish species (for example deep sea species, large mammals, and migratory species) is often limited and should be strengthened.

Additionally, information on climate change impacts for fisheries and biodiversity is limited, especially in ABNJ, and continued work is required. The SPC Climate Change and Fisheries Study²² could serve as a useful model for other areas of the Pacific region and globally. This study is aimed at providing policy makers and managers in the Pacific Islands with information on how climate change may affect fisheries, employment, and national revenue. This project includes vulnerability assessments on Pacific fisheries to estimate effects of climate change on fisheries and aquaculture, as well as an evaluation on changes to ecosystems and habitats. Advice on the implications of climate change, adaptation and management measures, priorities for development assistance, and capacity for mitigation will be provided as part of the project.

Best practices in the region in terms of fisheries management, biodiversity conservation and management of other uses in ABNJ; sectoral collaboration in ABNJ; and linking global, regional, and national initiatives

The IATTC Agreement on the International Dolphin Conservation Program (AIDCP) is a best practice for the region. The AIDCP aims to reduce and eliminate dolphin mortality, as well as ensuring the long-term sustainability of the tuna stocks and related marine resources in the area, by using

²² www.spc.int/images/stories/SPPU/new%20spc%20initiative%20impact%20of%20climate%20change%20on%20fisheries%20high%20resolution.pdf

ecologically sound techniques and taking into account the complex relationships of ecosystems (IATTC, no date). The agreement involves NGOs, governments, and private sector collaboration, and has resulted in increased dolphin numbers and protection status.

Mechanisms for collaboration within the Pacific Islands Forum are another best practice. The Pacific Oceanscape Framework, endorsed by the leaders of the Pacific Island Forum, focuses on a holistic approach to conservation management, highlighting regional collaboration and national commitments. The Framework has three components – Pacific Ocean arcs (aimed at development of marine protected areas), climate change and ocean security (aimed at recognizing emerging issues of impact to the ocean), and learning and leadership (cross cutting initiative to support research, learning, and leadership). The CROP (cross-sectoral technical oversight) and the Marine Sector Working Group (MSWG) for regional technical collaboration are other examples of best practices related to collaboration. The CROP, is a collective body of nine intergovernmental organizations²³ working towards sustainable development in the Pacific Region through cooperation, coordination, and collaboration. The CROP is a coordinating mechanism for regional organizations, and also serves as an advisory body. The MSWG was established between CROP and other organizations to enhance cooperation and address ocean health, marine ecosystems, and resources.

FFA's Vessel Day Scheme²⁴ (VDS) – a system to manage catch where vessel owners can purchase and trade fishing days at sea for Parties to the Nauru Agreement – was developed by member countries and has led to sustainable stock management and self-reliance for SIDS by reducing the catches of target tuna species and increasing returns from distant water fishing nations. The VDS works to constrain and reduce the target tuna species. Member States collaborate to manage the tuna stocks within national jurisdictions, then access fees for fishing within national waters of the Member States are paid by distant water fishing nations, increasing returns to Member States.

The Niue Treaty²⁵, also administered and supported by FFA, was established for cooperation and sharing of information, as well as joint enforcement action. The treaty is concerned with monitoring, control and surveillance of fishing, and includes procedures for penalizing vessels caught fishing illegally as well as sharing information on vessel position and speeds and which vessels are fishing without a license.

Other best practices: The South Pacific Regional Fisheries Management Organisation (SPRFMO) has undertaken benthic assessments. Finally, the MoU between WCPFC and IATTC for cross endorsement of observers is another best practice. These best practices within the Pacific have relevance for the management of ABNJ; however, the lessons learned from these best practices need to be better distilled and communicated within the Pacific and globally.

²³ Members of CROP: Pacific Island Form Secretariat (PIFS), Forum Fisheries Agency (FFA), Pacific Islands Development Program (PIDP), Secretariat for the Pacific Community (SPC), Secretariat of the Pacific Regional Environment Program (SPREP), South Pacific Tourism Organisation (SPTO), University of the South Pacific (USP), Pacific Power Association (PPA), Pacific Aviation Safety Office (PASO).

²⁴ www.ffa.int/vds

²⁵ www.ffa.int/niue_treaty

Gaps to be addressed in order to achieve effective management of fisheries, biodiversity conservation, and other uses in ABNJ

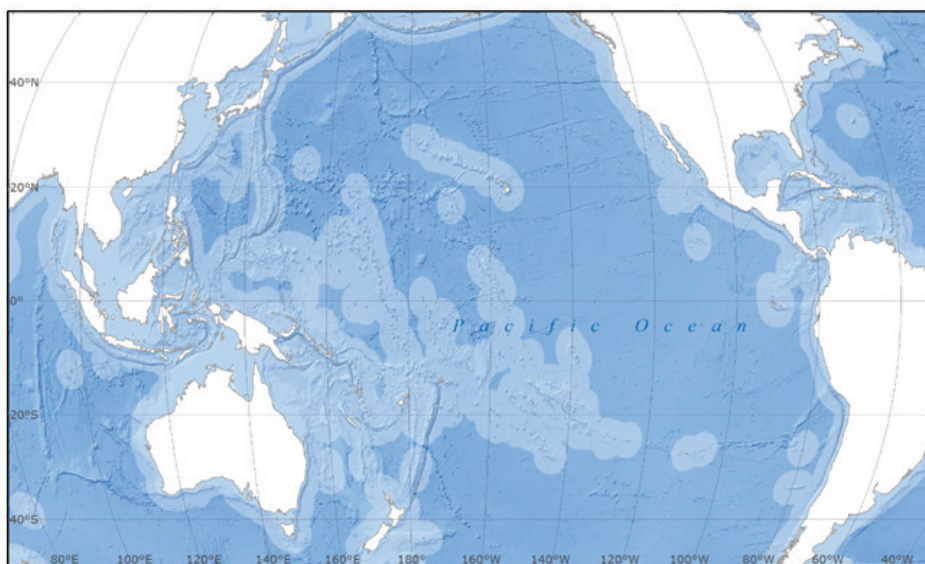
Scientific knowledge and information gaps to be addressed include: lack of information on non-tuna species, such as marine mammals; lack of information on the implications of emerging uses, such as deep sea minerals, relevant to both EEZ and ABNJ and characterized by high levels of uncertainty and low levels of knowledge on biodiversity of the deep sea; benthic habitats, details are locked in industry and there is little sharing except with flag states, there is a need to develop a knowledge base; ocean acidification impacts on fisheries and biodiversity; ecosystem services and relationship with stocks, fundamental to better application of ecosystem management approaches. With fisheries being such an important part of the Pacific, addressing the impacts of climate change on the region is especially important. This includes impacts on fisheries and biodiversity, but also on boundaries and non-tangible impacts as well.

Other gaps discussed include the following: In-region capacity is limited, and specific technical training is often unavailable; there is limited national capacity to engage across sectors and ministries; retaining/attracting qualified staff within national agencies is an issue within Pacific island countries as is the availability of specialists within the region; issues are often linked with effective governance (or lack thereof), including institutional capacity; and lack of incentives to attract and retain the best quality staff in fisheries and biodiversity.

Box 6

ABNJ Management and Governance Framework in the Pacific

Figure 3. The South Pacific (in light blue, areas delimited with arcs located at a distance of 200 nautical miles from the baseline, extracted from the VLIZ MarBound database).



Sources: IOC, IHO and BODC, 2014; IHO and IOC, 2016; Claus et al., 2014; ESRI et al., no date.

Geographic scope

South Pacific Islands, Southeast Pacific

Primary uses of ABNJ

Fisheries, shipping, mining, migratory species pathways

Regional institutions

Commission for the Conservation of Southern Bluefin Tuna (CCSBT - www.ccsbt.org)
Inter-American Tropical Tuna Commission (IATTC - www.iattc.org/)
Pacific Islands Forum (www.forumsec.org/)
Permanent South Pacific Commission (CPPS - <http://cpps-int.org/>)
Secretariat of the Pacific Community (SPC - www.spc.int/)
Secretariat of the Pacific Regional Environment Programme (SPREP - www.sprep.org/)
South Pacific Forum Fisheries Agency (FFA - www.ffa.int/)
South Pacific Regional Fisheries Management Organisation (SPRFMO - www.sprfmo.int/)
Western and Central Pacific Fisheries Commission (WCPFC - www.wcpfc.int/)

Others

Other institutions
University of the South Pacific
Government agencies

There is a question of whether universities in the region have the capacity to train individuals to fill these needed gaps. Broader environmental programs have been growing, but specific degree programs are often not available. Such programs need to be available in country and structures to build capacity must be developed. In this regard, looking to other regions could provide an example of how to build capacity as well as retain/attract qualified staff. Additionally, there is a need for more capacity in regards to monitoring and surveillance.

Key areas for future activities and research that could fill identified gaps

Building better cross-sectoral linkages, looking to other sectors to find out what they can do to resolve urgent actions, and building cooperative frameworks is a key area for the future. There is much information that currently exists and many programs/activities within the region which could benefit from enhanced cooperation and cross-sectoral linkages. There are many activities not integrated or considered in the planning of other activities. A future area of work is to get more integration overlays, including marine mammal movements, global ocean observation (GOOS), seabirds, by-catch/non-target species, boundary gaps, and climate change modeling, in order to incorporate multiple activities in the planning process of other existing or new activities. Climate change will have a large impact on the Pacific. Future research needs to be done on how to accommodate for shifting resources due to climate change. National level capacity is often limited. This is a barrier to ensuring effective management of fisheries and biodiversity issues and also to integrate cross-sectorally. There is a need to build up tailored “home grown” capacity initiatives such as with and through the University of the South Pacific in the Pacific Islands region. Looking inter-regionally for lessons, including on capacity building, is an activity for the future. Finally, existing information needs to be shared better and distilled into policy relevant advice, and there needs to be better opportunities for sharing of such information and advice.

Southeast Atlantic and Indian Ocean Introduction

Southeast Atlantic. Angola, Namibia, and South Africa are the three countries which border the Southeast Atlantic (FAO, no date). Included in this region are several important topographic features targeted by deep-sea fisheries, including the Mid-Atlantic Ridge, Walvis Ridge, Valdivia Bank, Meteor Rise, Agulhas Ridge, as well as seamounts (FAO, no date). Expanding the region to central and north Africa, the coastline from Mauritania to South Africa is just over 14 000 km (UNEP, no date). Due to the diversity of ecosystems, the highly productive waters support fisheries, tourism, mineral exploitation, and oil extraction. Rapid modernization of African countries puts these ecosystems, as well as livelihoods, at risk from pollution and unsustainable use.

SEAFO²⁶ is the first post UN Fish Stocks Agreement RFMO for straddling and discrete stocks (Van Zyl, 2015). The Convention came into force in 2003 and has the aim of long-term conservation and sustainable use of fishery resources (Van Zyl, 2015). SEAFO has measures²⁷ to protect Vulnerable Marine Ecosystems (VMEs), including through 11 area closures, the Exploratory Fishing Protocol for New Fishing Areas, gear measures, coral/sponge by-catch thresholds, and VME Encounter Protocols,

²⁶ www.seafo.org/

²⁷ www.seafo.org/Management/VME-Protection

as well as measures to protect the deep-sea environment, including reducing incidental by-catch, banning gillnets, and TACs for five species (Van Zyl, 2015). Contracting parties are Angola, the European Union, Japan, Republic of Korea, Namibia, Norway, and South Africa.

The Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention²⁸) provides a legal framework for all marine-related programs and has a convention area from Mauritania to Namibia²⁹. The Convention came into force in 1984, and works to support the control of pollution and identify environmental management issues. There are three large marine ecosystems (LME) in the convention area: the Guinea Current LME³⁰, the Canary Current LME³¹, and the Benguela Current LME³².

The Fishery Committee for the Eastern Central Atlantic (CECAF³³) promotes the sustainable use of living marine resources through management and development of fisheries and operations³⁴. Established by FAO in 1967, the area of competence is the western side of Africa, from Morocco to Angola (CIA, no date). The committee works to encourage and coordinate research; promote collection, exchange, and dissemination of data and information; establish regulatory measures; provide monitoring control and surveillance advice; and coordinate training.

Other organizations in the region include the International Commission for the Conservation of Atlantic Tunas (ICCAT³⁵) and the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT³⁶).

Indian Ocean. With an area of 68 556 million sq km (roughly five and a half times the size of the United States) and 68 526 km of coastline, the Indian Ocean is the third largest ocean in the world (CIA, no date). Sixty five million people live within 10 km of the coast (Waruinge, 2015). Natural resources in this area include oil and gas (it is estimated that 40 percent of the world's offshore oil comes from this region), polymetallic nodules, fish, as well as sand and gravel (CIA, no date). This region is especially important for shipping, providing a major route for the shipping of petroleum and petroleum products from the Persian Gulf and Indonesia (CIA, no date). Fisheries play a large role in this region, supplying 14 percent of the global marine fish production (Yadava, 2015). Pollution, changes in marine biodiversity, and lack of governance integration for an ecosystem approach are all issues for this region (Yadava, 2015).

²⁸ <http://abidjanconvention.org/>

²⁹ Members to the Abidjan Convention: Angola, Benin, Cameroon, Cape Verde, Congo, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Namibia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone and Togo.

³⁰ http://abidjanconvention.org/index.php?option=com_content&view=article&id=138&Itemid=216&lang=en

³¹ http://abidjanconvention.org/index.php?option=com_content&view=article&id=137&Itemid=215&lang=en

³² http://abidjanconvention.org/index.php?option=com_content&view=article&id=136&Itemid=214&lang=en

³³ www.fao.org/fishery/rfb/cecaf/en

³⁴ Members to CECAF: Angola, Benin, Cameroon, Cabo Verde, Dem. Rep. of the Congo, Congo, Côte d'Ivoire, Cuba, Equatorial Guinea, European Union, France, Gabon, Gambia, Ghana, Greece, Guinea, Guinea-Bissau, Italy, Japan, Republic of Korea, Liberia, Mauritania, Morocco, Netherlands, Nigeria, Norway, Poland, Romania, Sao Tome and Principe, Senegal, Sierra Leone, Spain, Togo, United States of America.

³⁵ www.iccat.int/en/

³⁶ www.comhafat.org/def.asp?codelangue=23&po=2

Within the Indian Ocean is the Bay of Bengal sub-region, consisting of India, Sri Lanka, Bangladesh, Myanmar, Thailand, Indonesia, and the Maldives (World Bank, 2014). While poverty is high and human development is low, fisheries are a vital source of income and food security for the region (World Bank, 2014). Inshore fisheries are already developed in the region, with offshore fisheries developing in Sri Lanka and the Maldives (World Bank, 2014). Fisheries have become overexploited and the availability of fish resources has declined and effort has increased, causing fisheries to move further offshore and non-traditional offshore fisheries nations are focusing offshore (Yadava, 2015). Expansion of these fisheries within national jurisdictions and in ABNJ could add to regional development; however, the status of management and fisheries performance were both rated low for the region, as new technologies have gained a foothold and fishing effort has increased, calling into question the sustainability of these fisheries (World Bank, 2014). These low ratings and increasing fishing pressure provides opportunities for more effective management schemes to contribute to the growth of the region while ensuring the sustainability of the fish stocks. While countries within the region have not developed offshore stocks, distant water fishing fleets do exploit these stocks; meaning an understanding of how national management schemes are affected by ABNJ fisheries is needed (World Bank, 2014).

The Western Indian Ocean (WIO) sub-region includes Somalia, Kenya, Tanzania, Mozambique, South Africa, Madagascar, Seychelles, Comoros, and Mauritius (UNEP/Nairobi Convention Secretariat, 2015).

Approximately 60 million people live in the coastal zone of the WIO, and many of these people consider the marine environment of particular economic, social, and cultural significance (UNEP Nairobi Convention Secretariat, 2015). Biodiversity is high in this region. There are 11 257 marine species recorded in the Western Indian Ocean (WIO), about 13 percent are endemic (Waruinge, 2015). There are over 900 seamounts in the WIO and over 40 Ecologically and Biologically Significant Areas (EBSAs) have been described (Waruinge, 2015). The low incomes of these countries as well as increasing pressure from population growth and economic expansion has put a strain on the coastal zone, resulting in overfishing and pressure on marine biodiversity from habitat degradation to resource extraction (UNEP Nairobi Convention Secretariat, 2015). Human activities, including shipping, oil and gas extraction, coastal tourism, and bioprospecting, present opportunities for economic growth, but also add to the challenge of coastal management (UNEP Nairobi Convention Secretariat, 2015). Limited human and technical capacity has limited the ability for this region to formulate national laws and policies in response to international commitments and has also led to ineffective coordination and cross-sectoral governance (UNEP/Nairobi Convention Secretariat, 2015).

Fisheries in the Eastern Indian Ocean had a total catch value of 1.1 billion USD in 2006 (total catch of 1 030 000 tonnes) (Yadava, 2015). Since 1960, stocks have moved from mostly developing to mostly exploited or overexploited, with five stocks collapsed (as of 2006) (Yadava, 2015). There are 2 200 species of fish found in the WIO, representing 83 percent of all known fish families (Waruinge, 2015). Tuna and shrimp from the Indian Ocean are caught by fishing fleets from Russia, Japan, South Korea, and Taiwan (CIA, no date). The WIO generates 4 million tonnes of fish per year (5 percent of the global industrialized catch) (Waruinge 2015). The production of fish and fish products has risen in the past decades from 0.861 million tonnes in 1950 to 11.2 million tonnes in 2010 (Waruinge, 2015). Even though fisheries play a large role in the economy and livelihoods of

people in the region, there are many unknowns and undocumented issues. Some of these unknowns and issues include the ecological impacts of trawling, an understanding of trophic interactions, including predator removal; the link between pelagic fisheries and environmental health; the vulnerability of deep-sea fish stocks to overexploitation; and the vulnerability of deep-sea habitats to physical damage (Waruinge, 2015). There are also difficulties in managing distant water fisheries and a limited knowledge base on fish populations, habitats, and ecosystems (Waruinge, 2015).

Organizations and agreements operating in the Indian Ocean include Regional Seas Programmes (Nairobi Convention), the Bay of Bengal Programme, as well as tuna and fishery organizations (South Indian Ocean Fisheries Agreement (SIOFA), the Southwest Indian Ocean Fisheries Commission (SWOIFC), and the Indian Ocean Tuna Commission (IOTC). The Agulhas and Somali Current Large Marine Ecosystems (ASCLME³⁷), a UNDP/GEF project, was also operational in the region until 2014. Nine countries³⁸ worked to provide initial baseline data to learn about the oceanography and marine resources of the region. Although the project is no longer operational, the project worked to strengthen capacity and management in the region.

The Nairobi Convention³⁹ (Eastern African Action Plan) was established in 1985 as part of the UNEP Regional Seas Programme to help conserve, protect, and manage the marine environment in Eastern Africa. With tourism being a vital industry for Western Africa and Indian Ocean, there was a need to protect the environment from destruction, degradation, over-exploitation, especially from rapid industrialization, population growth, and oil and gas development (UNEP, no datec). Goals of the Convention include: promoting sustainable development and management, prevent pollution, strengthen regional collaboration, improve training and technical development, and assist with maritime emergencies (UNEP, no datec). The Parties to the Convention are Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, Tanzania, and South Africa.

The Bay of Bengal Large Marine Ecosystem has an area of 6.2 million km² (Yadava, 2015). The Bay of Bengal Programme⁴⁰ was established in 2003 under the BOBP-IGO Agreement and works to provide technical and management advisory services to ensure socio-economic well-being and ecological security (World Bank, 2014). Because fisheries employ 4.5 million people in this area, the World Bank/Bay of Bengal Programme ABNJ Project aims to establish sustainable and productive fisheries for migratory species (such as tuna) and develop a case for public-private partnerships. The programme has also developed a regional and national management plan for sharks and associated species, developed a framework for joint management of the Gulf of Mannar, and has worked to develop national plans for the Indian Shad fisheries (World Bank, 2014).

SIOFA⁴¹, established under FAO, held its first session in 2005. Its objectives include conservation and sustainable use of fishery resources (fish, molluscs, crustaceans, and sedentary species, with some exceptions) and promote sustainable development of fisheries (FAO, no dateb). Members are Australia, Cook Islands, European Union, France, Japan, Republic of Korea, Mauritius, and Seychelles.

³⁷ <http://asclme.org/>

³⁸ Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, and Tanzania.

³⁹ www.unep.org/NairobiConvention/index.asp

⁴⁰ www.bobpigo.org/

⁴¹ www.fao.org/fishery/rfb/siofa/en

SWIOFC⁴², established in 2004 by the FAO, is responsible for all living marine resources. The main objective is to “to promote the sustainable utilization of the living marine resources of the Southwest Indian Ocean region, by the proper management and development of the living marine resources, and to address common problems of fisheries management and development faced by the Members of SWIOFC,” (FAO no datec). Members are Comoros, France, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Republic of Tanzania, and Yemen.

Established in 1993 by the FAO, the IOTC⁴³ is responsible for the management of tuna and tuna-like resources⁴⁴ and their environment. Decisions are binding upon Members and Cooperating non-Contracting Parties⁴⁵. Capacity building to ensure participation of all Members is required under the IOTC Agreement, and engages in activities for capacity building for data, science, and compliance. The IOTC has a number of memoranda of understanding or other arrangements to foster cooperation and exchange of data with other organizations operating in the region, including but not limited to the Agreement on the Conservation of Albatrosses and Petrels, the Western and Central Pacific Fisheries Commission, and the Commission for the Conservation of Southern Bluefin Tuna⁴⁶.

Issues/challenges facing management of fisheries, biodiversity and other ABNJ uses in the region

The demand for fish is high in the region; however, there are three challenges to fisheries management: 1) adequate scientific data is unavailable, 2) access to technology and equipment to compile the data is limited, and 3) knowledge and training on best practices and tools to identify ABNJ areas in need of protection is lacking. Overexploitation is an issue for the region, as access to adequate and reliable data to support management of trans-boundary resources is lacking (Waruinge, 2015). This is furthered by the lack of monitoring, control, and surveillance (MCS) beyond territorial waters and a limited understanding of linkages between fisheries and biodiversity at a regional scale (Waruinge, 2015). Lack of MCS can lead to illegal fishing. In the Western Indian Ocean, 229-560 tonnes of fish (value of USD206-504 million) were illegally harvested (average from 2000-2003) (Yadava, 2015). Lack of a regional management strategy for ecosystem management leads to improperly managed fisheries (for example, the crustacean and demersal fisheries are managed only at a national level and there is no regional strategy for shared or transboundary species) (Waruinge, 2015). Pollution from increasing industry and urbanization as well as changes in marine biodiversity, particularly the loss of vulnerable and endangered species, are also problems for the region (Yadava, 2015).

Other challenges included lack of development and transfer of marine technology as established under UNCLOS, promotion of international cooperation regarding marine scientific research, information sharing, and collaboration. Even though there are challenges to fisheries management, there are regions which have successful fisheries management. Capacity development can play key

⁴² www.fao.org/fishery/rfb/swiofc/en

⁴³ www.iotc.org/

⁴⁴ Species under IOTC management include: various tuna species, marlin, sailfish, swordfish, and mackerel. For the full list please see here: www.iotc.org/about-iotc/competence

⁴⁵ Members and Cooperating non-Contracting Parties: www.iotc.org/about-iotc/structure-commission

⁴⁶ www.iotc.org/about-iotc/cooperation-other-organisations

role in helping regions with little information and resources to benefit from sharing of experiences and lessons learned by regions with successful fisheries management.

Many management bodies and RFMOs are sector-based, which could constrain information sharing and affect the ability for problems to be resolved across sectors in an integrated manner. States are members to different organizations or management bodies, but may not talk to each other and often have different priorities. Furthermore, issues of common ground and consensus are not easily found with different priorities and ways of framing the issues, as well as different views of what issues and challenges exist and how to address them consistently. The lack of an RFMO or existence of RFMOs lacking in capacity leads to gaps in the ability to capture data and various issues of different stakeholders. Obtaining data is an issue for some regions, but there is also the issue of having the knowledge and the resources to collect quality and accurate data. There are a few global initiatives to improve data needs, GRID-Arendal⁴⁷ for example, a non-profit foundation collaborating with UNEP, helps “facilitate free access to and exchange of information in support of decision making and to promote a sustainable future.” However, many of these initiatives lose momentum over time and there are challenges to getting cooperative measures to work. RFMOs have gone through different paths to reach UNGA recommendations; sharing between regions and developing partnerships can help move regions forward.

From a legal perspective, issues and challenges in ABNJ include delineation of the continental shelf, which has implications for management measures. Not all countries have agreed to EEZ boundaries (Waruinge, 2015). There have been some capacity development initiatives in order to improve submissions on continental shelf delineations, including regional workshops and a manual⁴⁸ developed by UNDOALOS; however, this is still an area for capacity development. Resolution of boundary issues has implications for the energy industry as the increasing demand for energy in the Bay of Bengal has furthered oil and mineral exploration (for example, discoveries in India and Myanmar, as well as initiatives by Bangladesh) (Yadava, 2015).

Under the framework of the UNFSA, the UNGA has established an assistance fund, which aims at supporting developing States in the implementation of the Agreement. Among other purposes, the Assistance Fund provides financial assistance for “Building capacity for activities in key areas such as effective exercise of flag State responsibilities, monitoring, control and surveillance, data collection and scientific research relevant to straddling and highly migratory fish stocks on a national and/or regional level” (UNDOALOS, no date). Provision of financial assistance to ensure managers and policy makers have the expertise and apply best practices in the implementation of management and governance structures such as the UNFSA is particularly important in order to achieve maximum impact. Sustainable learning and ensuring the right kind of capacity development at the appropriate time are important to setting and reaching good targets. Capacity development entails many aspects that requires specifics to be identified at different levels with various target participants. ABNJ presents a particular problem because of the lack of knowledge and information on capacity development needs. Different countries need to be engaged to address the challenge of biodiversity in ABNJ with limited information in the region.

⁴⁷ www.grida.no/

⁴⁸ <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N04/252/66/PDF/N0425266.pdf?OpenElement>

Existing knowledge and information from different sectors and organizations that can be used to address these issues/challenges

There is existing knowledge and information on various sectors in ABNJ emanating from UN agencies, which are shared through fellowships, meetings, and other forms of outreach. UN Oceans helps keep agencies informed on what areas are being worked on and by whom. There is some information on ABNJ available, especially on VMEs⁴⁹, and that information is accessible to a wide audience. FAO's recent launch of the VME database⁵⁰ links data providers and users to "facilitate the work of scientists and managers working on these fisheries and also promote transparency and accessibility of work that has been done in relation to VMEs to the general public." However, there is often a gap among stakeholders in ABNJ, in getting information from researchers to other stakeholders involved in ABNJ. Data integration can be beneficial at the organizational level. For example, International Seabed Authority⁵¹ (ISA) surveys on deep sea mining in the Southern Indian Ocean overlaps with the SIODFA⁵² fishing areas. Both actors have information which, if shared, can be used to further knowledge on the deep sea environment and fisheries.

Information may be available in different regions; however, packaging this information to ensure that it reaches the end-users is a problem. The challenge lies in helping policy makers understand the multi-disciplinary issues in a meaningful and impactful way. For example, IDDDRA⁵³ brings together various stakeholders to improve fisheries management to try to bridge the gap between those generating the information and those using the information. Policies must also be adaptive and able to change with new scientific information and new technology. Key issues for information and knowledge include: 1) if the right information exists, it is often sectoral and fragmented; 2) each coastal State has a fisheries management policy, but implementation is a problem; 3) in the Abidjan Convention area, there is no ABNJ work in fisheries conservation; and 4) traditional knowledge needs to be promoted. Looking at gaps in information and using the precautionary approach when information is not available should also be considered.

Best practices in the region in terms of fisheries management, biodiversity conservation and management of other uses in ABNJ; sectoral collaboration in ABNJ; and linking global, regional, and national initiatives

Best practices for cooperation include FAO's EAF-Nansen Project. The project, "Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries," aims to reduce poverty and achieve food security using the ecosystem approach to develop sustainable fisheries (FAO, no dated). The surveys⁵⁴ completed by the R/V Nansen generate data, providing opportunities for data sharing, and also promotes standards for data collection and monitoring. In collaboration with the Southeast Atlantic Fisheries Organization⁵⁵ (SEAFO), the Nansen also looked at seamounts⁵⁶ as an indicator of vulnerable marine ecosystems. SEAFO introduced measures to protect such ecosystems, including closing 11 areas to all fishing activity.

⁴⁹ www.fao.org/in-action/vulnerable-marine-ecosystems/background/en/

⁵⁰ www.fao.org/in-action/vulnerable-marine-ecosystems/vme-database/en/

⁵¹ www.isa.org.jm/

⁵² www.siodfa.org/

⁵³ www.iddra.org/index.htm

⁵⁴ www.fao.org/in-action/eaf-nansen/blog/en/

⁵⁵ www.seafo.org/

⁵⁶ www.imr.no/nyhetsarkiv/2015/mars/dr_fridtjof_nansen_pa_topptur_i_sorost-atlanteren/en

Market-based incentives within the region are also a best practice. Maldivian skipjack and yellowfin tuna are Marine Stewardship Council⁵⁷ (MSC) certified. This certification⁵⁸ ensures sustainable practices were used, and reflects management standards, as “developed through consultation with the fishing industry, scientists, conservation groups, experts and stakeholders (MSC, no date). This voluntary certification meets international standards for best practices for credible certification and ecolabelling programs, including meeting the FAO Code of Conduct for Responsible Fishing⁵⁹.

The FAO/UNEP project, Securing the Foundations for Fish Food Security in a Changing Ocean⁶⁰, is a collaboration with Regional Fisheries Bodies and Regional Seas Programmes. The project aims to serve as a collaborative effort to “address the multiple threats to the sustainability of fisheries and ensure their ecological foundations and services to enhance the contribution of fish to food security and poverty alleviation” (FAO/UNEP/Norway, 2014). The Abidjan Convention area is being used as a pilot program, testing to see how the experiences of organizations such as OSPAR and NEAFC can be applied in West Africa. If successful, the project will be implemented in other areas.

Other best practices include IDDRA's inclusion of financing in the fisheries dialogue and the ABNJ program, which can continue to compile best practices and disseminate this information and lessons learned. In the Bay of Bengal, preparing National Plans of Action⁶¹, NPOAs, for iconic and highly migratory species, such as sharks, is another best practice. The NPOA's jurisdiction is the EEZ; however, because the species are highly migratory, the impact will be seen in the ABNJ. The Southern Indian Ocean (SIO) Biodiversity Initiative⁶², which promotes management of seamount biodiversity and sustainable use, the Western Indian Ocean Coastal Challenge⁶³ (WIO-CC), which mobilizes commitment on a national and regional level to realize Convention and Action Plan goals, and the Consortium for the Conservation of Coastal and Marine Ecosystems in the Western Indian Ocean (WIO-C) are also examples of collaboration in the region (Waruinge, 2015).

Gaps to be addressed in order to achieve effective management of fisheries, biodiversity conservation, and other uses in ABNJ

While pelagic species have been well studied and a lot of information exists on these fisheries, demersal fisheries have not been well studied and more information is needed. Information needs to be gathered on species, ecosystems, benthic organisms, and microbes. EEZs and ABNJ are connected, and there is a need to better understand the movements of fisheries and resources between the two. Cumulative impact assessments are a key activity for all resources, no matter location. For the Nairobi Convention, a gap is seen in knowing what resources are there and how they can be managed. The area is rich in biodiversity, but expectations of the various countries must be balanced. In the Western Indian Ocean, a key gap to be addressed is sustainable exploitation of resources other than tuna. Additionally, the high cost of research and technology prevents many countries from having basic information of their resources.

⁵⁷ www.msc.org/

⁵⁸ www.msc.org/track-a-fishery/fisheries-in-the-program/certified/indian-ocean/maldives_pole_line_tuna/folder_contents

⁵⁹ www.fao.org/docrep/005/v9878e/v9878e00.htm

⁶⁰ www.unep.org/ecosystemmanagement/water/regionalseas40/Portals/50221/Concept%20NOTE.pdf

⁶¹ ftp://ftp.fao.org/fi/DOCUMENT/IPOAS/national/Srilanka/NPOA_Sharks.pdf

⁶² www.mu.undp.org/content/dam/mauritius_and_seychelles/docs/Seamount%20report%20Vol%204.pdf

⁶³ www.wiocc.org/

Capacity building is another gap to be addressed. This includes building capacity to effectively participate in regional processes, especially in regard to information flow. Capacity development needs to be better defined with a clear picture of what needs to be achieved, including behavioral changes that need to be seen. Capacity building should happen in response to a needs assessment. Cross-sectoral approaches should be fostered, and governments needs to be sensitized to the issues.

Key areas for future activities and research that could fill identified gaps

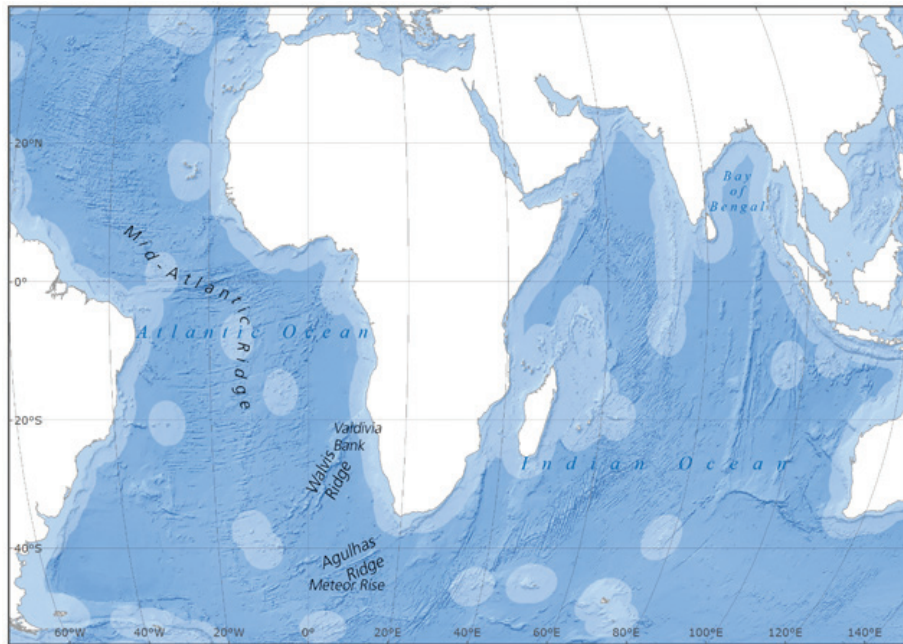
Scientific gaps need to be filled, as only a few scientific research cruises in the Indian Ocean have been conducted (Waruinge, 2015). The R/V Dr. Fridtjof Nansen is undertaking a research cruise⁶⁴ in the Indian Ocean from 28 June 2015 to 10 August 2015, which may help fill some of these data gaps, especially relating to VMEs and benthic habitats. Part of the cruise will be focused on identifying marine species, as well as exploring seamounts, benthic habitats, and vulnerable marine ecosystems. The cruise will also study the accumulation of marine debris and plastics in the Indian Ocean Gyre. Furthermore, the development of on-board tools and guides for the identification of vulnerable deep-sea species as well as organizing regional workshops for awareness raising and information sharing on VMEs and management measures could also be an opportunity to fill gaps (Van Zyl, 2015). The description of EBSAs should also be a continuing process (Waruinge, 2015). Training courses, knowledge-sharing networks, exchange visits between stakeholders on ABNJ issues (including regional workshops and capacity building), as well as sharing of expertise, experiences, and good practices can all assist in developing conservation and management in ABNJ (Cisse, 2015). Lessons learned in coastal areas could be shared and perhaps applied to open oceans and deep-seas (Cisse, 2015). While countries of the WIO have agreed to apply the ecosystem-based ocean governance approach, there is no single mechanism to support an integrated, region-wide approach (Waruinge, 2015). Greater coordination and integration of regional bodies (for example the Nairobi Convention, SWIOFC, and IOTC) is also needed to potentially expand existing mandates to include ecosystem management in ABNJ more coherently (Waruinge, 2015). There is also no platform to capture experience and draw lessons, and project initiatives/outcomes often do not translate into political initiatives as there is a lack of strong political platforms for regional cooperation (Yadava, 2015).

⁶⁴ www.fao.org/in-action/eaf-nansen/blog/join-us-aboard-the-nansen-across-the-indian-ocean/en/

Box 7

ABNJ Management and Governance Framework in the Southeast Atlantic and Indian Ocean

Figure 4. The Southeast Atlantic and Indian Ocean (in light blue, areas delimited with arcs located at a distance of 200 nautical miles from the baseline, extracted from the VLIZ MarBound database).



Sources: IOC, IHO and BODC, 2014; IHO and IOC, 2016; Claus et al., 2014; ESRI et al., no date.

Geographic scope

Southeast Atlantic
Indian Ocean

Primary uses of ABNJ

Fisheries
Biodiversity conservation
Shipping
Marine genetic resources
Etc.

Regional institutions

Agulhas and Somali Current Large Marine Ecosystems Project (ASCLME) (<http://asclme.org/>)
Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention) (http://abidjanconvention.org/index.php?option=com_content&view=article&id=90&Itemid=189&lang=en)
Indian Ocean Tuna Commission (IOTC) (www.iotc.org/)

Box 7 *continued...*

Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (www.unep.org/NairobiConvention/index.asp)

New Partnership for Africa's Development (NEPAD) www.nepad.org/foodsecurity/fisheries/about)

Regional Convention on Fisheries Cooperation among African States bordering the Atlantic Ocean (Dakar Convention) adopted by the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT/ATLAFCO) (www.tematea.org/?q=node/6546)

South East Atlantic Fisheries Organisation (SEAFO) (www.seafo.org/)

South Indian Ocean Fisheries Agreement (SIOFA) (www.fao.org/fishery/rfb/siofa/en)

Southern African Development Community (www.sadc.int/themes/agriculture-food-security/fisheries/)

Southwest Indian Ocean Fisheries Commission (SWIOFC) (www.fao.org/fishery/rfb/swiofc/en)

Western Indian Ocean Marine Science Association (WIOMSA) (<http://wiomsa.net/wiomsav2/>)

Western Indian Ocean Tuna Organization (WIOTO) (www.fao.org/docrep/w1310e/w1310e03.htm)

Other institutions

International Maritime Organization (IMO)

International Seabed Authority (ISA)

International Union for Conservation of Nature (IUCN)

Government agencies (e.g.,)

Academic institutions

Lessons learned from regional experiences

In summary, the following are the lessons learned as identified in the various sessions and workshop break-out groups in the regions.

North Atlantic

- International collaboration: Worked in the establishment of the Sargasso Sea Commission
- Science-Policy interphase: Aggregated scientific data used in seeking international recognition of the importance of the Sargasso Sea and in developing management arrangements
- Ecosystem approach to fisheries (EAF): The region provides successful examples in maintaining sustainable fish stocks, recovering fish populations, and reduction in IUU fishing. However, taking EAF forward requires further development of common fisheries/biodiversity agendas
- Political will: Making ABNJ a priority for governments requires scientific as well as stakeholder engagement and political strategies
- Control and enforcement: There are good MCS examples in the region but new technologies are needed to enhance implementation


- Knowledge management: Knowledge and information that exist pertaining to ABNJ may be good compared to many other regions, e.g., high-quality long term pollution data. However, their usefulness depends on what information is needed and for what purpose.
- Institutional Framework: The ability to make binding hard law and improving synergy towards common strategies are key factors, as illustrated by relevant EU Directives, providing targets, standards, guidance, e.g. MSFD, MSP Framework Directive, Atlantic Strategy and Action Plan.
- Precautionary approaches: The two regions have been proactive in the application of precautionary approaches, e.g., VMEs, MPAs, SPAMI, as well as long-term management planning (e.g. ACCOBAMS conservation plans) that can serve as models for other regions.

The Pacific Region

- Capacity: There is a difference between an RFMO making a decision and States implementing that agreement (Norris, 2015). Capacity is important (Kuemlangan, 2015). Lack of capacity to evaluate, monitor, and engage cross-sectorally can be inhibiting factors for management of EEZs as well as ABNJ, as can lack of capacity initiatives tailored to the Pacific. Building up capacity can be a way forward for more effective management.
- Harmonization: Different standards for EEZ and ABNJ remain (Norris, 2015) and it is important to harmonize resources between EEZ and ABNJ. Benefits of closing high seas pockets must be shown explicitly. Additionally, harmonizing RFMO management styles and integrating other information (for example, seabirds, marine mammals, etc.) can lead to better cross-sectoral linkages and harmonization between sectors as well as ABNJ and EEZs.
- Collaboration and sharing: There is much to learn from other regions, including looking for lessons and shortcuts for integrated ocean management (Brierley, 2015). There are lessons to be learned in collaboration with environment and fishery communities (Kuemlangan, 2015) and there must be sharing of information, both ways (Moreno, 2015). Joint programs, collaboration, cooperation, and sharing of information has already led to better management in the Pacific and continued efforts will ensure better management regionally.

Southeast Atlantic and Indian Ocean

- Coordination and information sharing: States are members of many different organizations, many of them sector based, and this can often lead to barriers in information sharing, different priorities, and difficulties in problem solving. Greater coordination and integration is needed. Regional platforms for cooperation, data exchange, and decision making can help capture experiences and lessons learned, which can then translate project outcomes into political initiatives; however, these mechanisms must be sustainable and long lasting.
- Data: There have been great strides in getting information about the region; however, most of this work has been on pelagic species (fisheries mainly). More research needs to be done on benthic habitats, ecosystems, organisms, and microbes. This information needs to be shared with countries in the region so that these countries can assess cumulative impacts and better understand the EEZ/ABNJ connection.

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- Capacity building: Capacity building efforts for cross-sectoral approaches, behavioral changes, and information flow need to be specifically defined. There is a gap between those generating information and those using the information as well as issues in implementation. Efforts need to be made to build capacity for translating the scientific information into policy as well as implementing these policies (for example, each coastal State has a fisheries management policy, but there is limited data for trans-boundary management and a lack of monitoring, control, and surveillance, which leads to overexploitation)

7. CONCLUDING OBSERVATIONS

The management of marine areas beyond national jurisdiction represents a complex and challenging set of issues, of relevance to all peoples and countries. Countries and groups have varying perspectives on what are the problems and the possible solutions.

The level of understanding regarding uses, threats, and issues in ABNJ among regional entities, national governments, and the public varies considerably; in many cases, awareness and understanding are just beginning.

At the global level, the recent decision to develop a legally binding instrument on BBNJ will provide significant opportunities for inputting information on alternative options for addressing particular issues identified in the “BBNJ package.” All groups should avail themselves of these opportunities.

At both global and regional levels, the challenge is to move from solely single sector management toward more multi-sector and area-based management, building on the various roles of existing national and regional authorities.

In this regard, lessons learned from national-level experiences with integrated coastal and ocean management can be usefully applied and adapted to the special context of marine areas beyond national jurisdiction.


Ultimately, national decision-makers must come to understand the importance of ABNJ, in terms of their national interests in their EEZs, their global ocean stewardship responsibilities, and their effective participation in global and regional fora related to ABNJ.

Existing organizations at the regional level (especially RFBs, Regional Seas programs, and Large Marine Ecosystem Programs) are uniquely positioned to address ABNJ issues, linking to global discussions, and as a conduit to national authorities in each region.

Examining different regional experiences regarding ABNJ, there is significant diversity in how (and whether) regional organizations have addressed ABNJ so far in different regions.

Attempts to build collaboration across various regional entities in various regions show that this is not easy and takes time to develop. Moreover, this is especially difficult to do when asking global organizations to collaborate in specific regions.

Successful examples, however, are present in various regions and useful lessons on processes and approaches that have worked can be gleaned, for example, the creation of “collective management arrangements or agreements” involving different types of regional organizations, such as RFMOs



and Regional Seas Programs. Such efforts are difficult to craft, involve much time and energy, and will ultimately need to be facilitated by new funding support.

Capacity development regarding ABNJ needs to be built among regional leaders, among national-level leaders, and among the public. Additional assessments about what type and level of capacity are needed.

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ANNEXES

Workshop agenda

Background

The marine areas beyond national jurisdiction (ABNJ), which comprise 64% of the oceans' surface, contain ecosystems with marine resources and biodiversity of great ecological, socioeconomic, and cultural importance. The ecosystems in the ABNJ include the water column and seabed of the high seas, and are located far from coastal areas, making the sustainable management of fisheries and biodiversity conservation in these areas challenging.

Issues related to ABNJ have risen to the top of the global ocean agenda, and are being discussed at the highest governmental levels. There is widespread agreement on the need to improve conservation of marine ecosystems and sustainable use of resources in ABNJ at both global and regional levels.

In various ABNJ regions of the world, such as the Northeast Atlantic, the Sargasso Sea, the Indian Ocean, and the Pacific Islands, important initiatives are underway to adapt existing regional institutional processes to move toward ecosystem-based management of ABNJ and to implement tools such as multiple-use area-based management and environmental impact assessment.

The Workshop on *Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction*, 17–20 February 2015, FAO, Rome, Italy was organized to foster an open and constructive policy dialogue for supporting national, regional, and global processes in place (formal and informal) in enhancing ecosystem approaches to the management of ABNJ.

Participants and Purpose

The workshop brought together representatives from all sectors with expertise, knowledge and experience in ABNJ issues, including: global, regional, and national decisionmakers; representatives from industries operating in ABNJ; UN delegates; intergovernmental organizations; non-governmental organizations; participants in the FAO/GEF Common Oceans Program (see www.commonoceans.org); policy experts; legal scholars; and academics, to:

- *Assess knowledge, ongoing trends and efforts at national/regional and global levels, and available capacity relevant to sustainable management of fisheries and biodiversity conservation in ABNJ. Explore, in particular, the implications of these for the FAO/GEF Common Oceans Program;*
- *Foster cross-sectoral linkages for improved information-sharing on ABNJ across sectors, and between global and regional levels;*
- *Share and exchange lessons learned, best practices, and emerging trends in research, development, and management of ABNJ resources from various regions of the world;*

- *Provide a synthesis on the current state of knowledge on relevant global and regional policy processes that could be used to: 1) address areas of uncertainty due to a weak knowledge base on fisheries and biodiversity; and 2) improve sustainable use of fishery resources and conservation of biodiversity in the ABNJ.*

Organizers

The workshop was organized by the Global Ocean Forum and the Food and Agriculture Organization of the United Nations and the project partners of the Global Environment Facility/Food and Agriculture Organization/Global Ocean Forum Project on Strengthening Capacity to Effectively Manage ABNJ as part of the GEF/FAO Program on Global Sustainable Fisheries Management and Biodiversity Conservation in Areas Beyond National Jurisdiction ("Common Oceans," www.commonoceans.org).

Workshop Program

Tuesday, 17 February

9:00 am – 5:00 pm

Arrival and Registration

Pre-Workshop Activities

Informal meetings (see details on page 7)

Wednesday, 18 February

9:00 am – 5:00 pm

Arrival and Registration

10:00 am – 12:00 pm

**SESSION 1. OPENING SESSION:
IMPORTANCE OF AREAS BEYOND
NATIONAL JURISDICTION (ABNJ)**

Red Room (A-121 INT)

This session provides an overview of the workshop, its scope and goals in the context of current and emerging problems, constraints, and opportunities in the management of ABNJ. High-level leaders from government and intergovernmental organizations will discuss the importance of ABNJ from national and global as well as sectoral perspectives, and their value as reflected in their institutional priorities.

CO-CHAIRS:

Árni M. Mathiesen, Assistant Director-General, Fisheries and Aquaculture Department, FAO

Ambassador Angus Friday, Ambassador of Grenada to the United States and to the Organization of American States

Welcome to the Food and Agriculture Organization of the United Nations: The Importance of Areas Beyond National Jurisdiction (ABNJ)

Maria-Helena Semedo, Deputy Director-General, FAO

Moving Toward Ecosystem Approaches to Management of ABNJ in the Context of the Global Ocean Agenda: Purposes of the Workshop

Biliana Cicin-Sain, President, Global Ocean Forum

Vision of the Global Environment Facility for Areas Beyond National Jurisdiction

Nicole Glineur, Program Manager, Biodiversity and Private Sector, Global Environment Facility

The Importance of Protecting Biodiversity in ABNJ

David Cooper, Director of Scientific Assessment and Monitoring Division, Convention on Biological Diversity Secretariat

Legal and Global Perspectives in the Management and Governance of ABNJ in the Context of UNCLOS

Gabriele Goettsche-Wanli, Director, UN Division for Ocean Affairs and the Law of the Sea

Advancing Global Policy Through 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

Palitha T. B. Kohona, Ambassador and Permanent Representative of Sri Lanka to the United Nations Liesbeth Lijnzaad, Legal Adviser, Ministry of Foreign Affairs, The Netherlands.

Co-Chairs, 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

The Common Oceans Programme

Jeremy Turner, FishCode and Common Oceans Programme Manager, Fisheries and Aquaculture Department, FAO

Developing Countries' Perspectives on ABNJ and the Imperative of Capacity Development

Eden Charles, Ambassador and Deputy Permanent Representative of Trinidad and Tobago to the United Nations (remote presentation)

12:00 – 1:30 pm

LUNCH BREAK

12:45-1:30 pm Side Event

The Ocean/Climate Platform for UNFCCC COP21 Paris 2015 (Tara Expeditions)

Host: André Abreu, Tara Expeditions

1:30 – 3:30 pm

SESSION 2. SETTING THE STAGE: MAJOR USES AND ISSUES IN ABNJ

Red Room (A-121 INT)

This session provides an overview of the status of major uses/issues/threats in ABNJ, with an emphasis on fisheries management and biodiversity conservation. The status of ecosystems in ABNJ and their vulnerability to human activities will also be discussed. Discussion will also include new knowledge on major drivers of change, such as climate change, and new and emerging uses of ABNJ.

CHAIR:

John Connelly, President, National Fisheries Institute, and Former Chairman, International Coalition of Fishing Associations

Achieving Sustainable Fisheries in ABNJ

Jessica Sanders, Fisheries Officer, FAO, *Overview of Fisheries Issues in ABNJ*

Jean-François Pulvenis, Senior Policy Advisor, Inter-American Tropical Tuna Commission, *Perspectives of RFMOS on ABNJ*

Javier Garat Perez, Secretario General de Cepesca (Confederación Española de Pesca) and Chair, *Europêche, Fishing Industry Perspectives on ABNJ*

Serge Garcia, Chair, Fisheries Expert Group, IUCN Commission on Ecosystem Management, *Ecosystem Approaches to Fisheries in ABNJ: How Far Have We Come?*

Frank Chopin, Chief, Fishing Operations and Technology, FAO, *A Snapshot of Threats to ABNJ Fisheries*

Marine Biodiversity and Marine Biotechnology: Issues and Challenges

Marjo Vierros, United Nations University

The Future of Deep Sea Mining

David Johnson, Director, Seascope Consultants Ltd, EU MIDAS Project

Shipping: The Lifeblood of World Trade

Fredrik Haag, Technical Officer, Marine Environment Division, International Maritime Organization (remote presentation)

Climate and Biodiversity Issues

Roberto Danovaro, Polytechnic University of Marche, Italy

Discussion

3:30 – 3:45 pm

COFFEE BREAK

3:45 pm

Special Presentation

European Union Perspectives on Marine Biodiversity Beyond National Jurisdiction

Tullio Scovazzi, Professor of International Law, University of Milano-Bicocca, Milan, Italy

4:00 – 6:00 pm

SESSION 3. THE IMPERATIVE OF CAPACITY DEVELOPMENT IN ABNJ

Red Room (A-121 INT)

This session reviews and discusses updates on capacity assessments for science and technology to support research, conservation, communications, and sustainable use and management of ABNJ. Various options and approaches for multi-sector area-based planning in ABNJ are reviewed, including capacity for their implementation.

The imperative for public awareness and stewardship of ABNJ and their management and strategies for addressing this need are also discussed.

Co-Chairs:

Gabriele Goettsche-Wanli, Director, UN Division for Ocean Affairs and the Law of the Sea

Awni Behnam, President, International Ocean Institute

Assessment of Capacity Needs in ABNJ and the ABNJ Regional Leaders Program

Miriam Balgos, Biliana Cicin-Sain, and Erica Wales, Global Ocean Forum and University of Delaware

Capacity Development Tools for Multiple-Use Area-Planning and Their Potential Use in ABNJ

Jacqueline Alder, formerly Coordinator, Marine and Coastal Ecosystem Branch, UNEP

Capacity Development in Support of Aichi Biodiversity Target 11

David Cooper, Director of Scientific Assessment and Monitoring Division and Aleke Stöfen-O'Brien, Junior Professional Officer, CBD Secretariat

Capacity Development in the Management of Tuna Fisheries

Alejandro Anganuzzi, Coordinator, ABNJ Tuna Project, FAO

Capacity Development and the Ecosystem Approach to Fisheries in the ABNJ

Merete Tandstad, Lead Technical Officer, ABNJ Deep Seas Project

Public Awareness and Capacity Issues in ABNJ

Tina Farmer, Lead Technical Officer, ABNJ Capacity Development Project, FAO

Philippe Vallette, Director General, Nausicaa

Capacity Development in Marine Science: Tara Expeditions Initiatives

André Abreu, Head for Environment and Climate Policy, Tara Expeditions

Discussion

6:00 – 8:00 pm

Welcome Reception, Aventino Room

Thursday, 19 February

9:30 – 10:00 am

Recap of Sessions 1-3, Tina Farmer, Food and Agriculture Organization of the United Nations

Red Room (A-121 INT)

Sessions 4-6 will focus on the status of major uses/issues/ threats in ABNJ with emphasis on fisheries and biodiversity in the regions,

including: 1) information on new and emerging uses; 2) "State of practice" of regional level implementation of ABNJ management, including new options for conservation and sustainable management and updates on ongoing processes and discussions on ABNJ issues taking place at the regional level; and 3) lessons learned and best practices from national and regional management approaches, and potential ways to scale up these approaches to the global level. Inputs and perspectives from the Common Oceans Program will add information and lessons learned to the discussion.

10:00 am – 12:00 pm

SESSION 4. EXPERIENCES, PRIORITIES AND OPPORTUNITIES IN THE SOUTH ATLANTIC AND INDIAN OCEAN

Red Room (A-121 INT)

CHAIR:

Thembile Joyini, Counsellor, Permanent Mission of South Africa to the United Nations in New York

South Atlantic Region

Yacouba Cisse, Universite de Bouake, Côte d'Ivoire, Abidjan Convention Committee on Science and Technology

Rehema Namaganda Bavuma, World Forum of Fish Harvesters and Fishworkers (*remote presentation*)

Ben van Zyl, South Atlantic Fisheries Organisation (SEAFO), Swakopmund, Namibia (*remote presentation*)

Indian Ocean

Dixon Waruinge, Program Officer, Nairobi Convention Secretariat

Yugraj Singh Yadava, Director, Bay of Bengal Programme Inter-Governmental Organization (BOBP-IGO)

Discussion/Input from Common Oceans program

DISCUSSION LEADER:

Alejandro Anganuzzi, Coordinator, ABNJ Tuna Project, FAO

12:00 – 1:30 pm

LUNCH BREAK

12:45 to 1:30 PM

Side Event

Aboard the R/V Fridtjof Nansen

A Month-long Research Voyage Along the African

Coast and Deep Seas

Hosts: EAF-Nansen Project and the FAO Deep-sea Fisheries Programme

1:30 – 3:15pm

SESSION 5. EXPERIENCES, PRIORITIES AND OPPORTUNITIES IN THE PACIFIC

Red Room (A-121 INT)

CHAIR:

David Sheppard, Director General, Secretariat of the South Pacific Regional Environment Programme

Pacific Islands

Elizabeth Brierley, Senior Ocean Analyst, Office of the Pacific Ocean Commissioner/Pacific Island Forum Secretariat

Wesley Norris, Deputy Director-General, Pacific Islands Forum Fisheries Agency (FFA)

Southeast Pacific

Julio Augusto Reyna Moreno, Capitán de Navío, Secretary General, Comisión Permanente del Pacific Sur (CPPS)

Discussion/Input from the Common Oceans program

DISCUSSION LEADER:

Blaise Kuemlangan, Chief, Development Law Service, FAO

3:15 – 3:30 pm

COFFEE BREAK

3:30 to 5:30 pm

SESSION 6. EXPERIENCES, PRIORITIES AND OPPORTUNITIES IN THE NORTH ATLANTIC AND MEDITERRANEAN

CHAIR:

William Gibbons-Fly, Director, Office of Marine Conservation, Bureau of Oceans and International Environment and Scientific Affairs, U.S. Department of State

Atlantic

Stefán Ásmundsson, Executive Secretary, North-East Atlantic Fisheries Commission (NEAFC)

Darius Campbell, Executive Secretary, OSPAR Commission

Fred Kingston, Executive Secretary, Northwest Atlantic Fisheries Organization (NAFO)

Sargasso Sea

David Freestone, Executive Secretary, Sargasso Sea Commission (remote presentation)

Mediterranean

Miguel Bernal, Fishery Resources Officer, General Fisheries Commission for the Mediterranean (GFCM)

Francois Simard, Deputy Head, Senior Advisor for Fisheries, Global Marine Programme, IUCN

Juan Suarez-de Vivero, Professor of Marine Geography, University of Sevilla

Discussion/Input from Common Oceans program

DISCUSSION LEADER:

Merete Tandstad, Lead Technical Officer, ABNJ Deep Seas Project, FAO

Friday, 20 February

9:15 am

COFFEE

9:30 – 10:00 am

Recap of Sessions 4-6

Kathrin Hett, Monitoring and Evaluation Officer, Common Oceans Program, FAO

10:00 am – 2:00 pm

SESSION 7. BREAK-OUT DISCUSSIONS ON ADVANCING REGIONAL MANAGEMENT OF ABNJ

Meet initially in the Red Room. After an introduction to the break-out sessions, regional discussions will be held in different rooms as noted below. Participants will be assigned to regional discussions. Groups may go to lunch at their convenience.

The break-out group discussions, which will be conducted by regions (or regional groups), will identify, discuss and take stock of: 1) Current knowledge and information on fisheries management, biodiversity conservation, and other major uses and issues in ABNJ in the region/regional group; 2) Emerging best practices for management of fisheries and biodiversity conservation, from both within and beyond national jurisdiction, that could be scaled up and applied to ABNJ in each region/regional group, as well as to the global level; and 3) Important gaps in capacity, management, scientific knowledge, and other key areas of uncertainty related to ABNJ uses and issues as well as specific avenues for future research and action with a view to filling these gaps in each region/regional group.

The expected outputs from these break-out groups will form part of the state-of-the-art of science and policy/management in fisheries management, biodiversity conservation, and other major uses and issues in ABNJ in each region/regional group.

OVERALL FACILITATORS:

Marjo Vierros, Adjunct Senior Fellow, United Nations University- Institute for the Advanced Study of Sustainability

Miriam Balgos, Program Coordinator, Global Ocean Forum and University of Delaware

Marco Boccia, Fishery Liaison Officer, Policy, Economics and Institutions Branch, Fisheries and Aquaculture Department, FAO

South Atlantic and Indian Ocean (meet in German Room C-269)

Yugraj S. Yadava, Director, Bay of Bengal Programme Inter-Governmental Organisation (Moderator)

Yacouba Cisse, Universite de Bouake, Côte d'Ivoire, Abidjan Convention Committee on Science and Technology

Pacific (meet in Nigeria Room C-215)

David Sheppard, Secretary Director, Secretariat of the Pacific Regional Environment Programme (Moderator)

Elizabeth Brierley, Senior Ocean Analyst, Office of the Pacific Ocean Commissioner/Pacific Island Forum Secretariat

Wesley Norris, Deputy Director-General, Pacific Islands Forum Fisheries Agency (FFA)

Nguyen Chu Hoi, Vietnam National University

North Atlantic and Mediterranean (meet in Ethiopia Room C-215)

David Johnson, Programme Coordinator, Global Ocean Biodiversity Initiative (Moderator)

Christophe Lefebvre, French Marine Protected Areas Agency

Stefán Ásmundsson, North East Atlantic Fisheries Commission (NEAFC)

Alastair Macfarlane, Executive Secretary, International Coalition of Fisheries Associations

2:30 – 3:00 pm

COFFEE BREAK

3:00 – 5:00 pm

SESSION 8. LEARNING LESSONS, CHARTING DIRECTIONS

Red Room (A-121 INT)

This session will commence with reporting from the Chairs of the Regional Breakout Groups and summary of discussions. A synthesis of the overall outcomes from the plenary sessions and break-out discussions will follow.

Next steps emanating from the workshop outcomes as well as concluding remarks will close the workshop.

CO-CHAIRS:

Ambassador Angus Friday, Ambassador of Grenada to the United States and to the Organization of American States*

Counsellor Thembile Joyini, Permanent Mission of South Africa to the United Nations

Reporting from the Chairs of the Regional Breakout Groups

WORKSHOP CLOSING

Workshop Concluding Remarks

Maria-Helena Semedo, Deputy Director General, FAO

Jon Erlingur Jonasson, Permanent Representative of Iceland to the Food and Agricultural Organization of the United Nations
Biliana Cicin-Sain, President, Global Ocean Forum and University of Delaware

Pre-workshop Activities (Tuesday, 17 February)

Will be held in the Philippines Room (C277-281)

10:00 am – 12:00 pm

Meeting of the Community of Practice on Fisheries, Biodiversity, and Climate Change

1:00 pm – 3:00 pm

Meeting of the Community of Practice on Multi-Sector Area-Based Planning

For both meetings, participants will: 1) define strategic context for the CoP: articulate the value of having a CoP in their area of interest and benefits that can be derived from membership and participation in the CoP; identify the critical issues in ABNJ that the CoP can address; articulate the need for sharing and generating new knowledge to address those critical issues; and 2) brainstorm, define, and set parameters for interaction within the CoP.



3:00 pm – 5:00 pm

Meeting of the ABNJ Public Outreach Network

Participants will discuss: 1) how to design the program of work for the Network for long-term participation; 2) how to harness interest in ABNJ and in the Network; 3) develop a strategic plan for the Network.

List of workshop participants

Mr. Andre Abreu

Head for Environmental and Climate Policy
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Mrs. Marisol Aguero

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Ms. Milena Bellini-Sheppard

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