August 2018

Policy Brief on

Capacity Development as a Key Aspect of a New International Agreement on Marine Biodiversity Beyond National Jurisdiction (BBNJ)

By

Biliana Cicin-Sain, Marjo Vierros, Miriam Balgos, Alexis Maxwell, Meredith Kurz, Global Ocean Forum; **Tina Farmer,** FAO, Lead Technical Officer, GEF/FAO/GOF Capacity Development Project; **Atsushi Sunami, Miko Maekawa, Iwao Fujii,** Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF); **Awni Benham,** International Ocean Institute; **Julian Barbiere, Salvatore Aricò, Kirsten Isensee, Ward Appeltans, Harriet Harden-Davies,** Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO); **Aimee Gonzales, Stephen Adrian Ross,** Partnerships in Environmental Management for the Seas of East Asia (PEMSEA); **Alfonso Ascencio Herrera, Chapi Mwango, Annekah Mason,** International Seabed Authority; **Ronán Long, Larry Hildebrand,** World Maritime University (WMU); **Philippe Vallette,** Nausicaa/World Ocean Network**; Joseph Appiott,** Secretariat of the Convention on Biological Diversity, **Yugraj Yadava,** Bay of Bengal Programme Inter-Governmental Organisation; **Kouete Koffi Afachawo,** Office of the Special Adviser of the President of Republic of Togo; **Margaret Chizoba,** Federal Ministry of Justice, Nigeria; **Kanako Hasegawa,** UN Environment; **Abdul Rahman Bin Abdul Wahab,** Department of Fisheries, Malaysia**; Andre Polejack,** Ministry of Science, Technology, Innovation, and Communication, Brazil; **Lizanne Aching,** Trinidad and Tobago; **Jenny Bowie-Wilches,** Embassy of Colombia in The Netherlands; **Transform Aqorau,** Advisor, Parties to the Nauru Agreement; **Rudolf Hermes,** former Chief Technical Advisor, Bay of Bengal Large Marine Ecosystem Project (BOBLME); **Dominique Benzaken,** Advisor, Government of Seychelles; **Laleta Davis-Mattis,** University of the West Indies, Jamaica; **Nguyen Chu Hoi,** Vietnam National University; **Abou Bamba,** Abidjan Convention; **Rose Lesley Kautoke,** Attorney General's Office, Government of the Kingdom of Tonga; **Bojotlhe Butale, I**nternational Law Unit of the International and Commercial Division, Attorney General's Chambers, Botswana.

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This is a multi-author, multi-institutional effort, led by the GEF/FAO/GOF Capacity Development Project and its Communities of Practice, involving a set of 40 Authors, contributing in their personal capacities. The Policy Brief addresses the challenges of capacity building, relevant international prescriptions on capacity development, discussions on capacity in the BBNJ process so far, existing efforts in capacity building relevant to BBNJ, financing capacity building for BBNJ, a possible clearing-house mechanism, and possible modalities for linking capacity efforts at global, regional, and national levels. The paper is intended to contribute directly to the discussions at the Intergovernmental Conference on development of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).

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Biliana Cicin-Sain, Marjo Vierros, Miriam Balgos

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List of Acronyms

ABM Area-based Management
ABMT Area-based Management Tools
ABNJ Areas Beyond National Jurisdiction
ABS Access and Benefit-Sharing
ABSCH ABS Clearing-House
AF Adaptation Fund
AIMS Australian Institute for Marine Science
API Application Programming Interface
ASCLME Agulhas and Somali Current Large Marine Ecosystem Project
AWGCME ASEAN Working Group on Coastal and Marine Environment
BBNJ Biodiversity Beyond National Jurisdiction
BCH Biosafety Clearing-House
BESNet Biodiversity and Ecosystem Services Network
BOBLME Bay of Bengal Large Marine Ecosystem Project
BOBP-IGO Bay of Bengal Programme – Intergovernmen tal Organisation
BRSMEAS Basel, Rotterdam and Stockholm Conventions
CANARI Caribbean Natural Resources Institute
CARICOM Caribbean Community
CBD Convention on Biological Diversity
CD Capacity Development
CDDC Centre for Drug Discovery & Conservation
CECAF Fishery Committee for the Eastern Central Atlantic
CEHI Caribbean Environmental Health Institute
CGTMT Criteria and Guidelines on the Transfer of Marine Technology
CHM Clearing-House Mechanism
CITES Convention on International Trade in Endan gered Species of Wild Fauna and Flora
CLME+ Caribbean and North Brazil Shelf Large Marine Ecosystems
CMA The Caribbean Marine Atlas
CMAR Eastern Tropical Pacific Marine Biological Corridor
CMS Convention on the Conservation of Migratory Species of Wild Animals
COBSEA Coordinating Body on the Seas of East Asia
COMHAFAT Ministerial Conference on Fisheries Coopera tion among African States Bordering the Atlantic Ocean
COP Conference of the Parties
CPIC Coalition for Private Investment in Conservation
CPPS Comisión Permanente del Pacífico Sur
CRFM Caribbean Regional Fisheries Mechanism
CROP The Council of Regional Organisations of the Pacific
CTI Coral Triangle Initiative
CZ Coastal Zone
DBCP Data Buoy and Cooperation Panel
DRMREEF DNA Taxonomy and Recruitment Monitoring of the Coral Reef Marine Organisms
EAF Ecosystem Approach to Fisheries Management
EBSA Ecologically or Biologically Significant Marine Area
ECLAC Economic Commission for Latin America and the Caribbean
EDF Environmental Defense Fund
EEZ Exclusive Economic Zone
EIA Environmental Impact Assessment
EIB European Investment Bank
ERI Dow Agro Science Ersa Research Institute
ESCAP Economic and Social Commission for Asia and the Pacific
ESCWA Economic and Social Commission for Western Asia
FAO United Nations Food and Agriculture Organization
FFA Pacific Islands Forum Fisheries Agency
GAP Global Action Programme
GBIF Global Biodiversity Information Facility
GEF Global Environmental Facility
GIS Geographic Information System
GLOSS Global Sea Level Observing System
GOF Global Ocean Forum
GOOS Global Ocean Observing System
GOSR Global Ocean Science Report
IATTC Inter-American Tropical Tuna Commission
ICBG International Cooperative Biodiversity Groups
ICES International Council for the Exploration of the Sea
ICZM Integrated Coastal Zone Management
ILBI international legally binding instrument
INBio National Biodiversity Institute
INVEMAR The José Benito Vives de Andréis Marine and Coastal Research Institute
IOC-HAB IOC Harmful Algal Blooms Programme
IOC-UNESCO Intergovernmental Oceanographic Commission of UNESCO
IODE International Oceanographic Data and Infor mation Exchange
IOI International Ocean Institute
IORA Indian Ocean Rim Association
IOTC Indian Ocean Tuna Commission
IOW International Ocean Week
IPBES Intergovernmental Platform on Biodiversity and Ecosystem Services
ISA International Seabed Authority
IUCN International Union for Conservation of Nature
IUU Illegal, Unreported and Unregulated Fishing
JCOMM Joint Technical Commission for Oceanography and Marine Meteorology
LDC Least Developed Country
LDCF Least Developed Countries Fund
LME Large Marine Ecosystem
MARPOL International Convention for the Prevention of Pollution from Ships
MGR Marine Genetic Resources
MPA Marine Protected Area
MSP Marine Spatial Planning
MSR Marine Scientific Research
NDC Nationally Determined Contribution
NDG Nationally Determined Goal
NEPAD New Partnership for Africa's Development
NEP North-East Pacific Regional Seas Programme
NFP National Focal Point
NGO Non-governmental Organization
NIO The National Institute of Oceanography
NOWPAP Northwest Pacific Action Plan
OBIS Ocean Biogeographic Information System
ODA Official Development Assistance
OSPAR Oslo/Paris Convention for the Prtoection of the Marine Environment of the North-East Atlantic
OSPESCA The Central American Fisheries and Aquacul ture Organization
PACMEC Promoting the Awareness on Coastal Marine Environmental Change and its Impact
PEMSEA Partnerships in Environmental Management for the Seas of East Asia
PERSGA Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden
PES payment for ecosystem services
PIFS Pacific Islands Forum Secretariat
PNA Parties to the Nauru Agreement
POP Persistent Organic Pollutant
PPP Public-private Partnerships
PSSA Particularly Sensitive Sea Area
R&D Research and Development
RBO Regional Fishery Bodies
RFB Regional Fishery Organization
RFMO Regional Fisheries Management Organization
ROPME Regional Organization for the Protection of the Marine Environment
SACEP South Asia Cooperative Environment Programme
SCOR Scientific Committee on Oceanic Research
SCP Sustainable Consumption and Production
SDDF Special Climate Change Fund
SDG Sustainable Development Goal
SEA Strategic Environmental Assessment
SEAFDEC The Southeast Asian Fisheries Development Center
SEAFO South East Atlantic Fisheries Organisation
SIDS Small Island Developing States
SIOFA South Indian Ocean Fisheries Agreement
SPC Pacific Community
SPIMCAM Southeast Pacific data and information network in support to integrated coastal area management
SPREP Secretariat of the Pacific Regional Environ mental Programme
SPRFMO South Pacific Regional Fisheries Management Organisation
SPTO South Pacific Tourism Organization
SWIOFC Southwest Indian Ocean Fisheries Commission
TMT Transfer of Marine Technology
TTR Training-through-Research
UNCCD United Nations Convention to Combat Deserti fication
UNCED United Nations Conference on Environment and Development
UNCLOS United Nations Convention on the Law of the Sea
UNDOALOS United Nations Division of Ocean Affairs and Law of the Sea
UNDP United Nations Development Programme
UNEP United Nations Environment Programme
UNFCCC United Nations Framework Convention on Climate Change
UPNG University of Papua New Guinea
USP University of South Pacific
VPISU Virginia Polytechnic Institute and State University
WACAF West and Central Africa Regional Seas Programme
WCPFC Western and Central Pacific Fisheries Commission
WESTPAC IOC Sub-Commission for the Western Pacific
WIOMSA Western Indian Ocean Marine Science Association
WMO World Meteorological Organization
WORMS World Register of Marine Species
WSSD World Summit on Sustainable Development
WWF World Wildlife Fund

Overview of the Policy Brief

This is a multi-author, multi-institutional effort, led by the GEF/FAO/GOF Capacity Development Project and its Communities of Practice, involving a set of 40 Authors, contributing in their personal capacities. The Policy Brief addresses the challenges of capacity building; relevant international prescriptions on capacity development; deliberations on capacity in the BBNJ process so far; existing efforts in capacity building relevant to BBNJ; financing capacity building for BBNJ; a possible clearing-house mechanism, and possible modalities for linking capacity efforts at global, regional, and national levels. The Brief is intended to contribute directly to the discussions at the Intergovernmental Conference on development of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).

The Challenge of Capacity Development Regarding Biodiversity Beyond National J urisdiction (BBNJ) (Section 1, pages 1 to 5)

Capacity development and technology transfer are cross-cutting issues which will be essential for the success of the new international legally binding agreement on biodiversity beyond national jurisdiction (hereinafter referred to as 'International Agreement'). This Policy Brief seeks to provide analyses and suggestions for capacity development related to BBNJ that are both specific and practical. Section 1 discusses the challenges of capacity development and technology transfer, and depicts the types of capacity and skills that might be required to support the International Agreement, including skills relating to marine scientific research, area-based management, environmental and impact assessment (including strategic impact assessment addressing cumulative and cross sectoral impacts), development of marine genetic resources, and development of national and regional policies and actions vis-à-vis areas beyond national jurisdiction (ABNJ).

It should be noted that while this Policy Brief focuses mainly on capacity development, this topic is closely linked with the transfer of marine technology. Like capacity development, the transfer of marine technology is vital for the implementation of the new International Agreement, and the two should be considered together as a cross-cutting issue. Transfer of marine technology is a key part of capacity development; in turn, adequately built capacity will ensure that technology transfer delivers lasting benefits.

The Policy Brief examines the various actors and stakeholders operating at different levels (global, regional, and national) and institutions which will be entrusted with the implementation of the new International Agreement. It addresses what capacities will need to be developed by these individuals and institutions to achieve the objectives of the International Agreement, considering the interconnections between areas within and beyond national jurisdiction. The Policy Brief also considers how these enhanced capacities will support the conservation and sustainable use of marine biodiversity in coastal areas and national EEZs—the continuum from coastal zones to EEZs to ABNJ.

Countries and regions have different starting points, cultures, capacities, and achievements, including socioeconomic and institutional/governance arrangements. Therefore, it is important to address the following questions: What do we know about the current capacity needs of countries and regions with regard to implementing the new International Agreement, including relevant natural science aspects, and aspects related to the social sciences, policy, politics, and law? What are the best ways to ensure that capacity development responds to the needs of all countries? This section (and subsequent sections 4 and 7) discuss these capabilities/skills from the perspective of individual, institutional, and societal capacity development, and examine how governments and international agencies can provide an enabling environment for the use and application of specific capacities related to understanding and management of areas beyond national jurisdiction.

Bottom Line:

Capacity Development and Technology Transfer, the fourth major issue being addressed in the BBNJ process, is in fact, the "enabler" of the

other three issues (marine genetic resources and access to benefit sharing; area-based management; and environmental impact assessment). Without appropriate capacity development and technology transfer, the other three major emphases of the BBNJ International Agreement will not be realized. This section delineates the need to develop further institutional and societal capacity to understand and act on ABNJ, in addition to continued development of capacity at the individual level.

Other sections of the report expand considerably on the major points made in Section 1. Sections 2 (Relevant International Prescriptions on Capacity Development), Section 3 (Review of What Has Come Out of the BBNJ Process), Section 4 (Existing Efforts in Capacity Development), and Section 7 (Possible Modalities and Approaches for Linking Global, Regional, and National Processes on BBNJ).

Relevant International Prescriptions on Capacity Development (Section 2, pages 7 to 9)

Capacity development for BBNJ is not starting from a vacuum; there are already many existing efforts by international and regional organizations that contribute to improved conservation and management of biodiversity in ABNJ. The Policy Brief takes stock of what provisions exist in international law and policy relevant to capacity development in ABNJ.

There is an existing and impressive "architecture" already in place on capacity development and technology transfer, emanating from the UNCLOS stream (1982 Convention, 1994 and 1995 implementing agreements), the UNCED stream (1992 UNCED, 2002 WSSD, 2012 Rio+20, Agenda 2030), as well as in related agreements—the 1994 Convention on Biological Diversity, the 2014 Small Island Developing States Accelerated Modalities of Action (SAMOA) Pathway, the 2012 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and the 2015 Paris Agreement on climate change.

While this "architecture" of capacity development and technology transfer is excellent and rightly ambitious, it appears that there has been limited implementation of these frameworks and guidelines. In most cases, implementation has not been tied to a funding mechanism, nor to a follow-up mechanism to assess progress and impact. Additionally, existing processes do not necessarily coordinate across various efforts, leading to duplication and to the absence of synergy among existing efforts. Significant attention/work has been focused at the individual level of capacity development (training individuals), and while this is very important, insufficient attention/work has focused on the development of institutional and societal capacity, which is essential in the longer-term to guarantee the sustainability of capacity development efforts.

Bottom Line:

There are already important provisions on capacity development in the UNCLOS and in other relevant international agreements which have only seen limited implementation. The major challenge is not to reconstruct these global prescriptions in the context of ABNJ, but instead to build a tangible system for capacity development and technology transfer.

Expressed needs for capacity development vary considerably from region to region of the world, suggesting that future provisions of a new International Agreement should be cognizant of regional diversity and provide the opportunity for tailoring solutions to the particularities of different regions.

National and regional representatives make clear linkages regarding capacity development along the continuum of coastal zones, territorial seas, Exclusive Economic Zones, and Areas Beyond National Jurisdiction. Efforts to build capacity regarding ABNJ must benefit EEZ and coastal management at the national level as well.

Summary of Discussions on Capacity Development in the BBNJ Process (Section 3, pages 11 to 14)

The BBNJ PrepCom process has, to date, provided the perspectives of nations on the scope of and modalities for capacity development and technology transfer. The Policy Brief summarizes the content of the scope of and modalities for capacity devel-

opment and technology transfer from the Chair's streamlined non-paper on elements of a draft text of an international legally-binding instrument under UNCLOS on BBNJ at the conclusion of the preparatory process in 2017. The non-paper notes that both capacity-development and transfer of marine technology could address: Access, collection, analysis and use of data, samples, publications and information; Implementation of UNCLOS obligations to promote the development of marine scientific research capacity in developing States and to promote the transfer of marine science and technology; Benefits from developments in marine science related activities; Capacity-development in respect to access and benefit sharing; Development, implementation and monitoring of area-based management tools (ABMTs), including MPAs; Conduct and evaluation of EIAs, and participation in SEAs; Implementation of the Sustainable Development Goals, in particular Sustainable Development Goal 14.

Bottom Line: The discussions carried out so far in the BBNJ process have gone a long way in laying out a broad vision of capacity development and technology transfer, especially regarding scope and principles that should guide the endeavor. More detailed discussions are needed at this point, especially in terms of possible modalities for building capacity at global, regional, and national levels; the development of a clearinghouse mechanism; the development of sustained financing; and the development of a regular process for monitoring, review, and follow-up.

Existing Efforts in Capacity Development by United Nations Agencies, Other International Entities, Governments, Non-Governmental Organizations, and the Academic Sector Relevant to ABNJ (Section 4, pages 17 to 24)

The Policy Brief presents the findings of an informal survey of 25 providers of capacity related to ABNJ on the part of various UN agencies, other international entities, non-governmental organizations, and the academic sector relevant to ABNJ carried out by the Policy Brief authors, including: ***Secretariat of the Convention on Biological Diversity; Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations; Food and Agriculture Organization of the United Nations (FAO); The Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO); International Ocean Institute (IOI); International Seabed Authority (ISA); Partnerships in Environmental Management for the Seas of East Asia (PEMSEA); Global Ocean Forum; Greenpeace International; Greenpeace USA; Institute for Advanced Sustainability Studies; International Chamber of Shipping; International Ocean Institute; Intramerican Association for Environmental Defense; Islands First; Natural Resource Defense Council (NRDC); Nausicaá National Sea Centre; The Nippon Foundation; Ocean Care; Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF); Pew Charitable Trusts; Tara Expeditions Foundation; Vietnam National University; World Maritime University; World Wildlife Fund (WWF).***

The survey asked respondents to report on the type of capacity development activities regarding ABNJ (e.g., training programs, conferences, manuals, guidelines, documentation and other materials, academic programs, public education programs, etc.), as well as the level (global, regional, national) at which the capacity development activity is aimed. As well, respondents were asked to report, for each capacity development activity, the issues addressed, objectives, target participants, region/country served, number of participants served, methodology, impacts, as well as the total budget used to implement the capacity development activity. These results are summarized in Section 4 with the detailed information appearing in the Annex to the paper.

This Section also reviews and provides examples with regard to scientific collaboration and of data and information sharing, including on marine genetic resources, and in relation to the Global Ocean Science Report.

Bottom Line:

Although there has been considerable growth of activities related to capacity building on ABNJ in recent years, overall, the number of activities on ABNJ capacity development remain relatively limited, with many of the capacity activities

being part of broader training in ocean policy, governance, and science. Most of the efforts are focused on training at the individual level rather than at the institutional and societal levels. The funding amounts are generally limited as well. There is no evidence of coordination among the various efforts.

Going forward, it would be useful to bring together the various efforts involved in ABNJ capacity development to ascertain lessons learned, what worked well and didn't, and to discuss possible modalities for scaling up activities in order to achieve capacity building at the institutional and societal levels. Connecting ABNJ capacity development to EEZ capacity development will be essential as well, since wise management of EEZs is of top interest and concern to member States. Creating some form of coordination among existing capacity development efforts will also be important to achieve greater synergy and forward movement.

As well, with regard to scientific collaboration and the sharing of data and information, at present, these activities tend to be ad hoc and not coordinated across different institutions. A more integrated approach with coordination and information sharing would better benefit developing countries and SIDS in implementing the new Internaional Agreement. A central clearing-house of opportunities (see section 5) would be one way to provide for such coordination.

A Possible Clearing-house Mechanism for BBNJ: Considerations and Lessons From Existing Clearinghouses (Section 5, pages 27 to 35)

Many countries have proposed a clearing-house mechanism to assist in implementing a new International Instrument for marine biodiversity beyond national jurisdiction, including through sharing data and information related to BBNJ and to facilitate capacity development. While countries broadly agree on the importance of information sharing, many questions remain about the format and content of a potential clearing-house mechanism and the role that it might play in facilitating capacity development. For example, how might a clearinghouse mechanism help in coordinating capacity development efforts and highlighting existing opportunities? Can it act as a matchmaking facility for users and providers? And how could it help articulate country needs? What features and components are needed in a clearing-house to address such needs?

This section specifically examines the use of existing clearing-houses established under international instruments to address the capacity-development needs of their users. ***The 9 clearing-houses reviewed here include the Convention on Biological Diversity's Clearinghouse mechanism, the Access and Benefit-Sharing (ABS) Clearinghouse, the Biosafety Clearinghouse; UNFCCC's Capacity Development Portal; the Joint Clearinghouse Mechanism for the Basel, Rotterdam and Stockholm Conventions; the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES); the Biodiversity and Ecosystem Services Network (BESNet); the Global Action Programme (GAP) Clearinghouse; and the Global Sustainable Consumption and Production (SCP) Clearinghouse.*** These were selected on the basis of their function, role and relevance to the potential capacity-development role of a BBNJ clearing-house.

Bottom Line:

This section provides a detailed look at the functioning and challenges faced by clearing-houses in 9 relevant international agreements. It summarizes what aspects of existing clearing-houses could be useful for a new International Agreement for BBNJ; what lessons can be learned from implementing clearing-house mechanisms; and details options for operationalizing a clearinghouse-mechanism for the BBN International Agreement.

The section concludes that a clearing-house mechanism can provide a useful tool for facilitating information sharing about capacity development opportunities, provide access to online training materials, facilitate scientific collaboration, and build networks of practitioners working on similar issues. It can also provide a platform for countries, institutions

and individuals to register their capacity development needs, both initially and on an ongoing basis, thus facilitating dialogue and cooperation between those providing capacity development and those requiring it.

Lessons learned from other clearing-house mechanisms indicate, however, that keeping the user community engaged and the information in the clearing-house currently are some of its biggest challenges. Additional challenges include providing compatibility with other existing data repositories and enabling access in multiple languages.

Financing Capacity Development for BBNJ (Section 6, pages 37 to 45)

The success of capacity development largely depends on the availability of adequate, predictable and sustainable funding, though progress can also be made through new and existing partnerships between private-public institutions and between regional and national institutions and research organizations. In this section, the Policy Brief discusses potential options for funding from public, philanthropic and private sources, such as support from multilateral institutions and funds; private investment; contributions from a benefit-sharing mechanism (e.g., royalties from MGR exploration); contributions from fees related to EIAs; voluntary payments by oceans users; public-private partnerships; and other innovative funding mechanisms. The Brief discusses, as well, the potential establishment of a financial mechanism for the International Agreement, including options such as a stand-alone mechanism, an existing mechanism such as the Global Environment Facility (GEF), as well as trust funds to finance capacity development, drawing lessons from a review of the financial arrangements of various environmental conventions.

It is likely that capacity development and technology transfer under a new International Agreement for BBNJ would need to rely on a range of different financing types from both public and private sources. Regardless of the actual type of finance, the new International Agreement would also require a financial mechanism, a body and/or a process to facilitate the provision of funding for nations and regions, especially developing countries and SIDS, to build their capacity to successfully implement and comply with the provisions of the Agreement.

This section provides a review of the financial mechanisms and arrangements of the following existing 12 international agreements: ***UN Framework Convention on Climate Change (UNFCCC); Convention on Biological Diversity (CBD); United Nations Convention to Combat Desertification (UNCCD); The Montreal Protocol on Substances that Deplete the Ozone Layer; CITES; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention); FAO International Treaty on Plant Genetic Resources; United Nations Convention on the Law of the Sea (UNCLOS); Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks; Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982; Convention on the Conservation of Migratory Species of Wild Animals.*** The following information is presented: Presence or absence of a financial mechanism operating entity and associated funding amounts (in US dollars); presence or absence of special funds and their monetary value (as available); provisions for administration of the fund; and other resources.

The differences found between the mechanisms of various conventions are a consequence of the different functions the instruments were designed to meet. The financial mechanism can be operated by one or more international entities, which take direction from a COP (Conference of the Parties) and are accountable to it. The COP would decide on the policies, program priorities and eligibility criteria for funding. This is the case, for example with the Rio Conventions--UNFCCC, CBD and UNCCD. In addition, special funds can be established to provide funding for specific purposes or recipients. The UNFCCC, for example, has two operating entities: The Global Environment Facility (GEF) and the

Green Climate Fund and the UNFCCC Parties have established several special funds: the Special Climate Change Fund (SDDF), the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF). A review of the financial resources available to conventions shows that UNFCCC with its two operating entities and several special funds has raised the largest amount of financing for its activities. Conventions relying only on voluntary contributions have raised the least.

Bottom Line:

For capacity development efforts to be effective, sustained and steady financing will be essential. The Law of the Sea Convention, adopted early on, in 1982, does not have a standing financial mechanism, in contrast to the UNCED related conventions that were adopted in 1992 or later (i.e., UNFCCC, CBD, and UNCCD), all of which have a standing financing mechanism. The LOS Convention has relied mainly on voluntary contributions to voluntary trust funds and to the Assistance Fund, which have not provided sufficient funding for the implementation of the Convention.

While funds from philanthropic sources have been mobilized to support specific capacity development activities in support of the LOS Convention, the extensive work that will need to be done under a new BBNJ International Agreement will require a sustained public finance mechanism to finance implementation of the Agreement, including needed capacity development activities at global, regional, and national levels. Deliberations on the appropriate type of financing mechanism to support the future BBNJ International Agreement can be informed both by the goals and architecture that will characterize the agreement as well as by lessons that can be learned from the experiences of other international agreements.

Possible Modalities and Approaches for Linking Global, Regional, and National Processes and Perspectives on BBNJ (Section 7, pages 47 to 58)

The Policy Brief examines the institutional landscape and rich tapestry of institutions undertaking capacity development in different nations and regions. What institutions are actively engaged in ABNJ capacity development at the regional and national levels and how might collaboration be forged in each region to address the capacity development and technology transfer prescriptions of the new International Agreement? Additionally, how might cross-regional and international collaboration at the global level help individual regions and national governments better meet their obligations? Successful models of regional collaboration in capacity development are examined for potential transfer to and adaptation by other regions. Possible modalities for assessing and acting on capacity development needs regarding the ABNJ-EEZ-coastal zone continuum are also explored.

As discussed in earlier sections, capacity development needs to go beyond training courses to address the long-term needs of countries, at the individual, institutional, and societal levels, through such approaches as regional centres of excellence; networks of universities, national learning centers and regional institutions; development of curricula and courses related to ABNJ; technical networks of professionals; opportunities for continued skill-development; degrees and certificates; industry participation; and global scholarship funds.

Each region has its own unique environmental, institutional, political and capacity context, which often includes an established institutional structure(s) for regional cooperation on managing the marine environment and its resources. In this context, many regions often have regional policies, programs, and initiatives that bring together countries to undertake area-based management, including creating marine protected areas, and to manage fisheries resources. Many of these existing institutions already engage in capacity development, particularly in training on specific topics related to their mandates.

There are many similarities among regions with regard to their capacity development needs, as expressed in the two ABNJ GEF/FAO/GOF workshops and in the ABNJ Regional Leaders training. There was general agreement among regional

participants that capacity development measures should be tailored to the needs of each region and that home-grown approaches should be promoted and strengthened. Cross-sectoral capacity-development and improving coordination within ministries, among sectors and stakeholders nationally and regionally were seen as important priorities. Coordinated approaches are needed in managing ocean areas in the context of an ecosystem approach, and thus putting in place processes and structures for national and regional coordination will improve ocean governance both within and beyond national jurisdiction, by addressing both institutional mandates and capacities. Other priorities included improving institutional capacity and finding ways to retain the best quality staff; access to information, data and technology related to ocean management; compliance and enforcement capacity; and providing for awareness raising about the importance of oceans in general and of ABNJ specifically.

With regard to capacity development modalities regionally, any efforts to build capacity should begin with identification and assessment of regional and national objectives and needs for capacity development, as well as existing opportunities on the regional and national levels. This could be the result of the enactment of comprehensive ocean policy addressing the identified needs, and aligning them to other regional and international frameworks. Strengthening regional and national institutions and universities is important, as is fostering better cross-sectoral coordination through capacity development. Improving coordination is not only based on capacity development, but requires additional enabling factors including communication, developing linkages and networking among institutions, etc. Capacity development efforts should also consider exchanging experiences between regions and creating a platform to capture experiences and draw lessons learned to be shared globally. Finally, sustainable and coordinated funding is required to consistently and reliably support capacity development.

Modalities on the national level discussed in the paper include examination of the concept of developing nationally determined goals for BBNJ (NDGs), which is an adaptation of the Nationally Determined Contributions (NDCs) under the UNFCCC Paris Agreement. Developing NDGs would allow countries to set goals and priorities and assess capacity needs in regards to a new International Agreement on ABNJ according to their own national priorities, capabilities, and responsibilities. The development of NDGs may be jointly carried out by a group of countries as a step in a regional planning process for geographically- or ecologically-defined regional waters. This would entail convening adjoining countries and member countries of relevant regional entities (RFMOs, RFBs, Regional Seas, LMEs, etc.) to develop region-wide goals for MGRs, area-based planning including MPAs, EIA, and capacity development. A regional ocean assessment and other environmental studies may have to be undertaken to provide benchmark information as a basis for the regional planning process which could take the form of marine spatial planning.

Bottom Line:

This section reviews the institutional landscape and rich tapestry of institutions undertaking capacity development in different regions and in different nations at the national level, and explores possible modalities for linking global, national, and regional levels.

At the national level, it is important for national authorities to set goals and priorities and assess capacity needs in regards to a new International Agreement according to their own national priorities, capabilities, and responsibilities. This section suggests the possible consideration of the concept of National Determined Goals for BBNJ (NDGs), which is an adaptation of the Nationally Determined Contributions (NDCs) under the UNFCCC Paris Agreement. This could involve, for example, developing national goals for area-based management, including establishing high seas MPAs, EIA, and capacity development and technology transfer, based on a national-regional process, and identification of benchmark data in line with International Agreement goals for these elements.

At the regional level, there are considerable similarities among regions with regards to expressed capacity development needs, emphasizing tailoring to the unique characteristics of each region, home-grown approaches, cross-sectoral approaches, and improving coordination among ministries, sectors and stakeholders both at national and regional levels.
As at the regional level, the process of specifying capacity development modalities for the region, would typically entail the convening of countries and relevant regional entities (Regional Seas programs, RFMOs, LMEs, other) around planning for geographically- or ecologically-defined regional waters. A regional ocean assessment and other environmental studies may need to be undertaken to provide benchmark information for the regional planning process, which may include methodologies such as marine spatial planning. A regional plan for capacity development and technology transfer in BBNJ could then be systematically designed, including developing a standardized set of core competencies relative to BBNJ through a combination of national/regional capacity development institutions.

Additional Research (Section 8, pages 81 to 63)

This brief concluding section includes a summary figure bringing together all the various elements discussed in the previous sections—linkages among global, regional, and national levels in capacity development, and interactions with a financing mechanism and a clearing-house mechanism. As well, the section lays out some suggestions for additional research/work that could be carried out to further refine and advance the discussion of various aspects of capacity development related to BBNJ presented in this Policy Brief.

1. THE CHALLENGE OF CAPACITY DEVELOPMENT REGARDING BIODIVERSITY BEYOND NATIONAL JURISDICTION

Capacity development and technology transfer are cross-cutting issues which will be essential for the success of the new international legally binding agreement on biodiversity beyond national jurisdiction (hereinafter referred to as 'International Agreement'). Capacity development will enable developing States to assume their responsibilities and obligations under the agreement, while providing for conservation and sustainable use marine biological diversity both in national waters and in areas beyond national jurisdiction.

1.1 What capacity is required to effectively implement the new International Agreement?

Capacity development for BBNJ aims to achieve the effective implementation of the new International Agreement on BBNJ by all countries by strengthening their ability to fulfill their rights and obligations as stated in the Agreement. Ultimately, capacity development will support the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction, as well as the ability of all countries to participate in a sustainable ocean economy. This section discusses the types of capacities and skills that might be required to reach this goal, and the question of whose capacities will need to be developed.

A mandate for capacity development and technology transfer already exists in UNCLOS and in other International Agreements, and this issue is discussed in more detail in section 2 of this report. The UNCLOS provisions on capacity development and technology transfer have generally not been well implemented[1] and with no fund or assistance programme available, the acquisition of new research technologies, infrastructure and knowledge is, in many cases, beyond the reach of most developing States.[2] With the new International Agreement now under negotiation, there is an opportunity to revitalize work related to capacity development and technology transfer relevant to oceans.

It is expected that countries will require capacity to comply with the new International Agreement; to participate in global and regional cooperation; develop national legislation, policies and institutional arrangements for the new Agreement; participate in enforcement; undertake marine scientific research and participate in research collaborations; build research and development capacities in country; undertake management of marine ecosystems in accordance with an ecosystem approach and using tools such as marine spatial planning and marine protected areas; evaluate Environmental Impact Assessments (EIAs); and support national and local efforts towards a healthy and resilient ocean and sustainable economies and livelihoods. Thus, **the skills required are broad, and encompass legal, policy, scientific and marine management capacities.**

While a needs assessment following the adoption of the new International Agreement would provide up-to-date information about capacity needs in countries and regions, the following list of potential needs could be used as a starting point:

- **Capacity development relating to area-based management, including marine protected areas (MPAs).** Important capacity could include identification of key areas for protection and management, development of management plans for the area, integrating uses and conservation through marine spatial planning, enforcement and monitoring.
- **Capacity development related to Environmental Impact Assessments (EIAs) and to develop Strategic Environmental Assessments (SEAs)**. Important capacity could include both conducting and evaluating EIAs and developing SEAs.
- **Capacity development related to marine genetic resources**, including biological prospecting, techniques relating to biotechnology, molecular biology and bioinformatics, and legal and technical aspects of benefit-sharing.
- **Marine scientific research and monitoring** relating to marine areas beyond national jurisdiction, and connected species and habitats in areas within national jurisdiction, as well as improved marine data and its management.
- **Effective legal and policy frameworks to support the new International Agreement**, including measures on the local, national and regional levels.
- In all of the above, **recognition, analysis, and consideration of the effects of climate change on areas beyond national jurisdiction, areas within national**

1 Salpin, C., Onwuasoanya, V., Bourrel, M., & Swaddling, A. (2016). Marine scientific research in Pacific Small Island Developing States. Marine Policy.
2 K Kittichaisaree (2011), presentation to the twelfth UN Information Consultative Process on Oceans and Law of the Sea. http://www.un.org/Depts/los/consultative_process/ICP12_Presentations/Kittichaisaree_Presentation.pdf

jurisdiction, and coastal zones, providing technical and financial assistance to SIDS and developing countries to implement mitigation and adaptation measures, adaptive management capacity, and disaster risk reduction.[3]

In addition, it is likely that many countries will require capacity development to be able to **effectively participate in the negotiations** leading up to the adoption of the new International Agreement.

Finally, it should be kept in mind that different countries and regions have different starting points, cultures, institutions and achievements. Instead of a one-size-fits-all solution, capacity development efforts should build on and strengthen local innovations and good practices while filling gaps for global participation.

1.2 Whose capacity will need to be developed?

Given the broad scope of the needed capacity, efforts in capacity development would likely need to include capacity on three levels: Individual capacity, institutional capacity and an enabling environment.

Individual capacity would include the capacity of policymakers (including government officials), researchers and marine managers to be able to implement various obligations relating to the new International Agreement. This type of capacity would encompass scientific, technical, policy and legal issues related to BBNJ.

Institutional capacity is one of the most important types of capacity to develop to ensure that capacities in countries and regions are realized in the long term. The institutions involved would include government agencies, universities and regional bodies (such as Regional Seas offices and Regional Fisheries Management Organizations, Large Marine Ecosystems). Institutions not only require a trained and competent workforce, but also the financing, technologies, data and knowledge to carry out their duties towards conservation and sustainable use of marine areas beyond national jurisdiction. They will also need to have in place institutional structures for collaboration and coordination that are required for integrated ocean governance.

Enabling environment consists of a broad set of requirements, such as political will and societal awareness, as well as existing legal, policy and institutional structures to support the actions that need to be taken. In addition, access to continuing education is required to ensure that institutions and individuals are able to meet their needs under changing conditions.

Finally, capacity development would need to be closely linked to **technology transfer** to ensure that necessary technologies and infrastructure in marine science and biotechnology are able to sustain national and regional efforts and capacities.

1.3 What do we know about capacity needs and gaps?

Section 7 of the Policy Brief provides detailed information on capacity gaps, needs and modalities for delivery at global and regional and national levels. In summary, it could be said that each region is different in its capacity needs and its institutional landscape for delivery, and that it is vital that capacity development and technology transfer be tailored to the needs of each individual region.

While a needs assessment is vital to truly understand, prioritize and respond to specific needs of each country and region, in general there exist needs in regards to all elements of the BBNJ "package" and related aspects. They include but are not limited to area-based management involving multiple ocean users, and how planning tools (e.g. marine spatial planning and EIA) relate to management tools (MPAs, PSSAs, EBSAs, etc.); undertaking EIA/SEA in ocean areas; research and development of marine genetic resources; compliance and enforcement; marine scientific research; legislation, as well as other areas, which inform decision-making on conservation and sustainable use of marine biodiversity in ABNJ. Many regions also have needs for improved data on their ocean areas, including database development, and indicate that awareness about BBNJ is still low both among policymakers and the general public. Thus, awareness-raising will have a large and continuing role in developing capacity.

In a more overarching sense, there is need for capacity development to support integrated ecosystem-based governance of oceans, which links coastal areas and EEZs to ABNJ. Much of capacity development in the past has been sectoral in nature and has been undertaken by specialized sectoral agencies. Cross-sectoral capacity development has been lacking and is key for improving the management of an entire interconnected ocean. Cross-sectoral capacity development also has the potential to improve coordination among agencies and institutions, build networks, and strengthen capacity of both humans and their institutions of governance.

1.4 Pathways to capacity development

Pathways to increased capacity depend on circumstances and starting points (e.g. type of job, range of professional duties and national needs), types of results desired (e.g. professional degree, mastering of specific skills, public awareness) and the discipline or disciplines involved

3 For a review of capacity development needs related to climate change affecting the ocean and coastal zones, see Toward a Strategic Action Roadmap on Oceans and Climate: 2016 to 2021, http://bit.ly/2hzqvyV

(e.g. science, law, policy, interdisciplinary). There are many different pathways available, which include **individual pathways**, as well as **institutional and societal pathways.** These are depicted in Box 1.

1.5 Capacity development and marine genetic resources

Capacity development related to marine genetic resources, includes biological prospecting, techniques relating to biotechnology, molecular biology and bioinformatics, and legal and technical aspects of benefit-sharing.

A large capacity gap still exists in marine scientific research and development of technology, for example in regards to marine genetic resources. Data and information are also unevenly distributed. Research, particularly marine scientific research relating to the deep sea, requires significant financial resources and sophisticated technology that includes oceanographic ships with specialized equipment, laboratories for processing samples, submersibles and remotely operated vehicles. Only developed or rapidly developing countries have access to such resources, with the result that scientific discoveries and the benefits of exploitation of the ocean are unevenly shared amongst nations. Access to information, particularly through scientific journals, is also often expensive and limited to well-funded libraries of universities and scientific institutions. Capacity for marine biotechnological research is still poorly distributed, and this is reflected in patents related to marine genes, more than 90% of which are registered with ten developed countries (Arnaud-Haond et al 2011).

While deep sea research is currently out of reach of many developing nations, the lack of capacity is also reflected closer to shore. Many developing countries' ability to manage their coastal areas and EEZs suffers from the lack of sufficient data, effective legal regimes, policies and enforcement. Building this capacity is important not only for the implementation of the new International Agreement for BBNJ, but also for the ability of countries to fully benefit from their marine resources in a sustainable manner, and to meet Sustainable Development Goal (SDGs) 14 relating to healthy oceans, as well as other SDGS, such as those relating to food security, innovation and poverty.

1.6 Linking capacity development and technology transfer

While this Policy Brief deals mainly with capacity development, it should be noted that this topic is closely linked with technology transfer. Like capacity development, technology transfer is vital for the implementation of the new International Agreement, and should be considered together with capacity development as a cross-cutting issue. Transfer of marine technology is a key part of capacity development, and capacity development is required to ensure that technology transfer delivers lasting benefits. Both capacity development and technology transfer are crucial for the successful implementation of the new International Agreement.

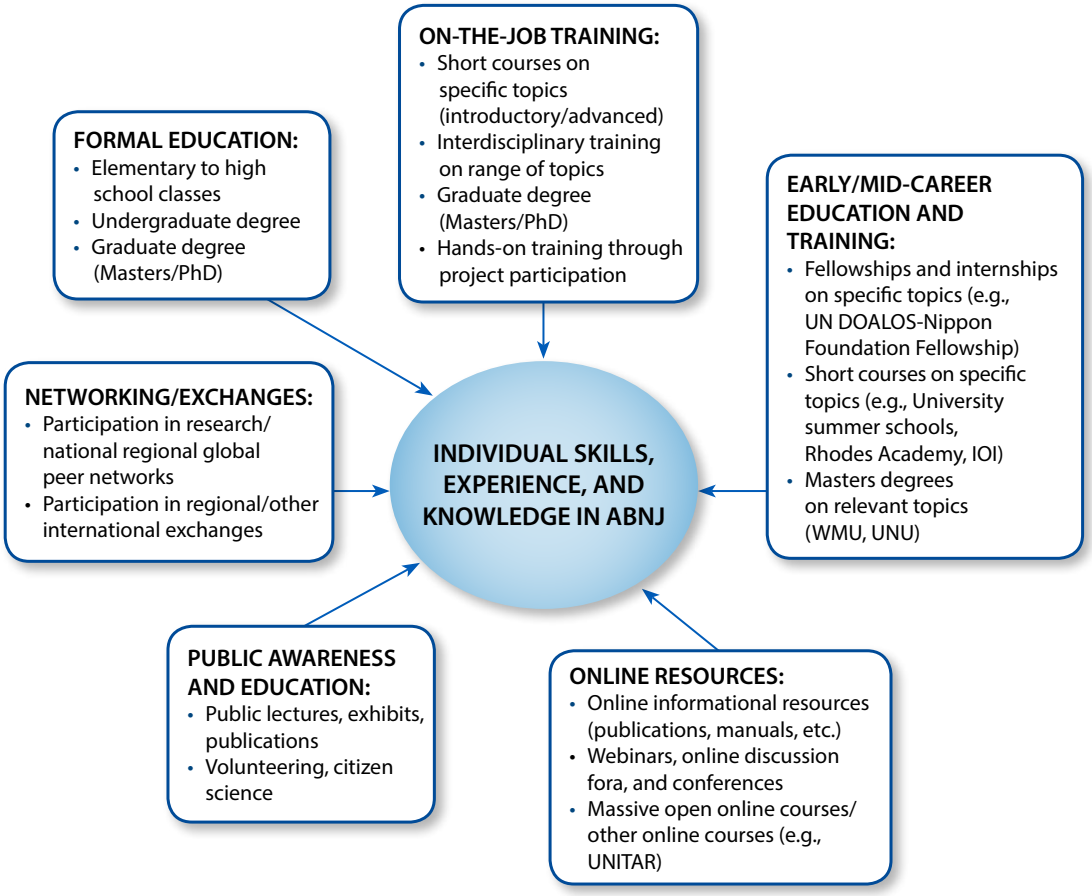
In the context of the BBNJ preparatory process (PrepComs I to IV), Member States have repeatedly cited the IOC Criteria and Guidelines on the Transfer of Marine Technology (CGTMT) as potential framework to defining technology transfer. The IOC CGTMT[1] aim to support the implementation of the development and transfer of marine technology as per Part XIV of the United Nations Convention on the Law of the Sea (UNCLOS) by providing a tool to promote capacity development through international cooperation.

For the purpose of the Guidelines, Marine Technology is understood as comprising:

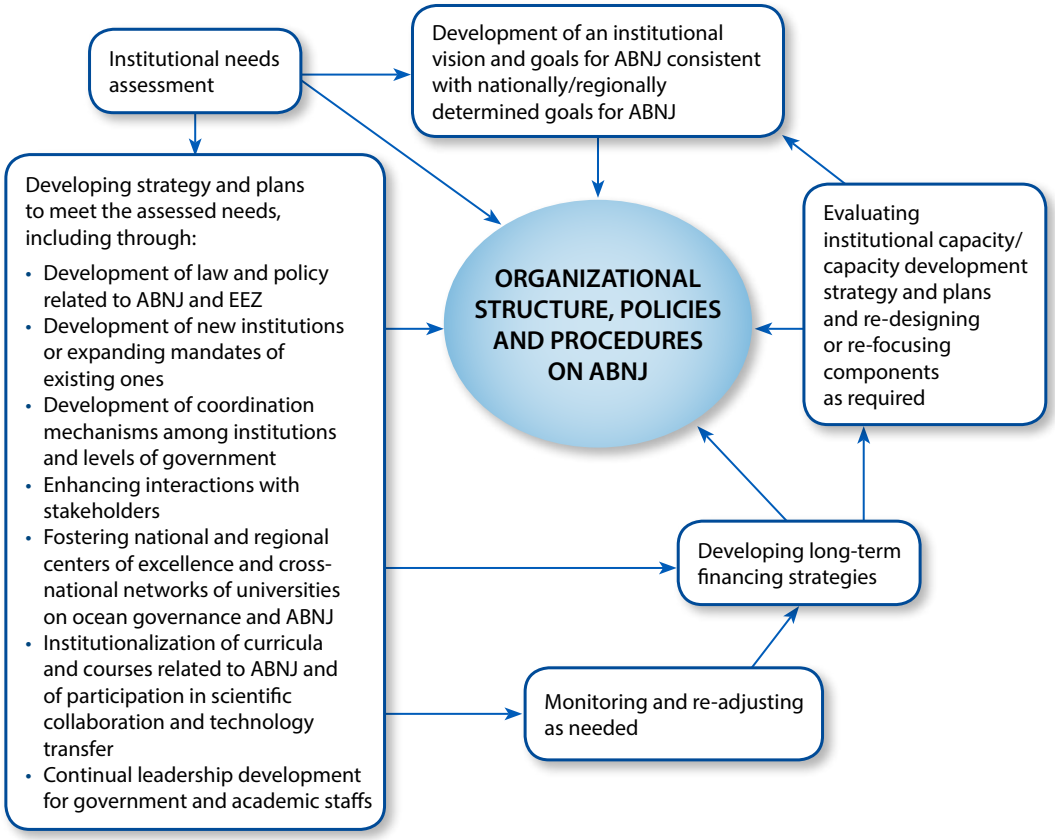
1. Information and data on marine sciences and related marine operations and services

Box 1. Individual, Institutional, and Societal Pathways to Capacity Development

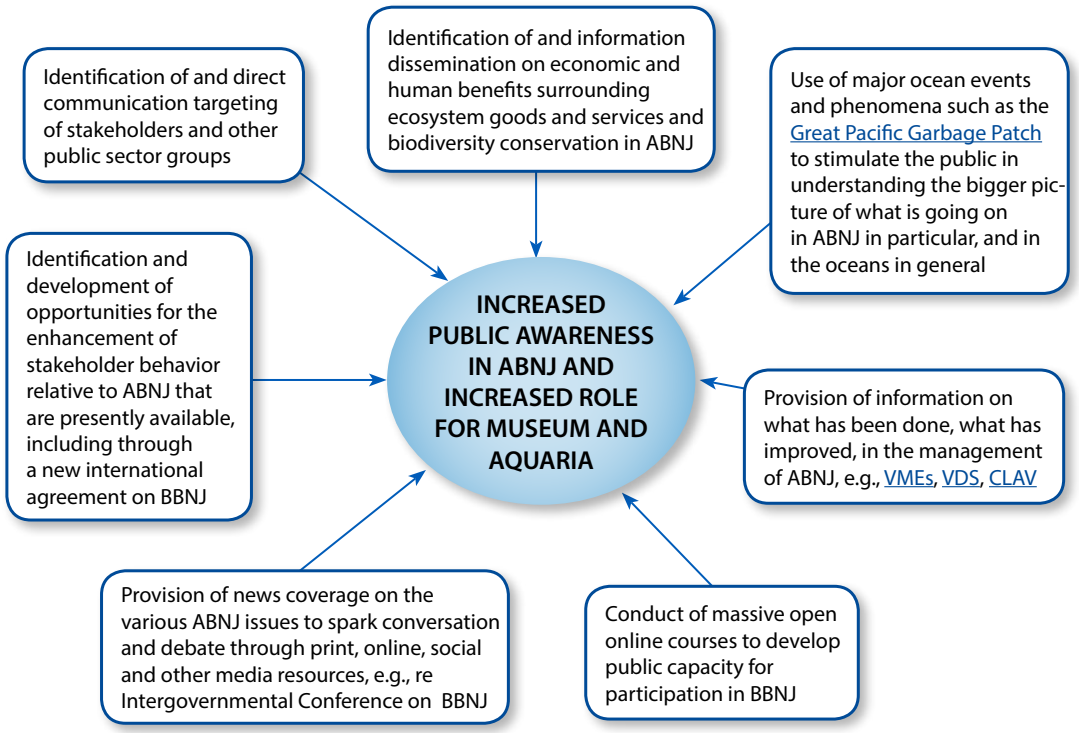
Individual Pathways to Capacity Development



Institutional Pathways to Capacity Development



Societal Pathways to Capacity Development



2. Manuals, guidelines, criteria, standards, reference materials
3. Sampling and methodology equipment
4. Observation facilities and equipment
5. Equipment for in situ and laboratory observations, analysis and experimentation
6. Computer and computer software, models and modeling techniques
7. Expertise, knowledge, skills, know-how and analytical methods.

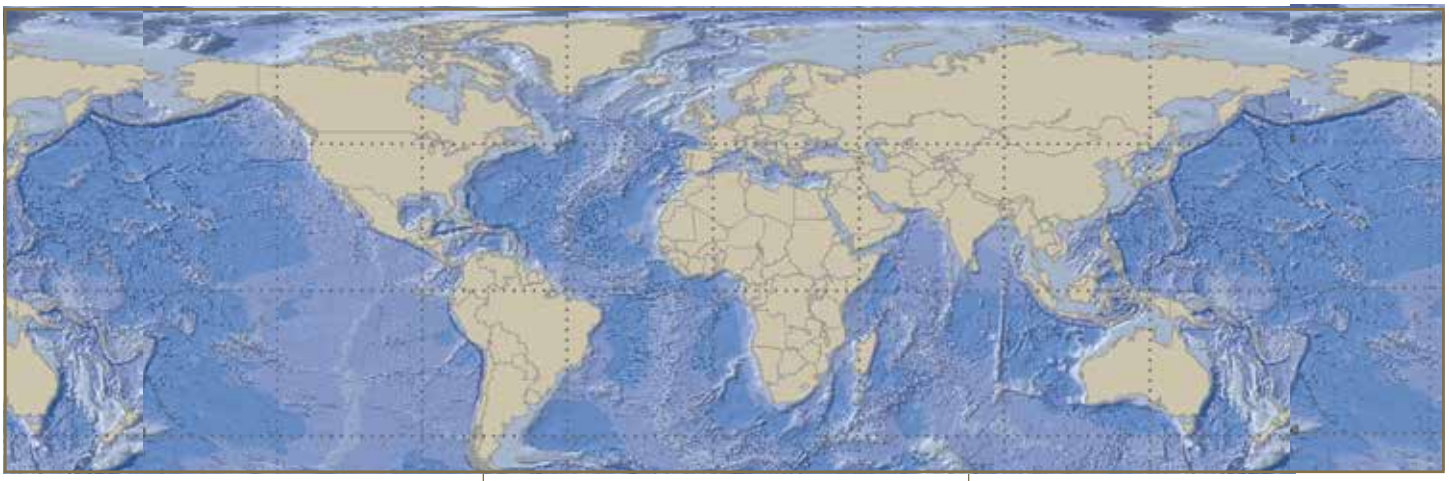
With this broad definition, it could be said that marine technology in this context consists of equipment and infrastructure, the people that operate them and use them for the purposes of scientific research, and the knowledge that is gained from their use.

The transfer of marine technology develops capacity through the process of acquiring scientific knowledge. Development of equipment and infrastructure and training of people are required to produce knowledge and grow networks of researchers to fill the data needs of policymakers. Thus acquiring, applying and sharing scientific knowledge are at the heart of developing capacity through the transfer of marine technology.

Bottom Line:

Capacity Development and Technology Transfer, the fourth major issue being addressed in the BBNJ process, is in fact, the "enabler" of the other three issues (marine genetic resources and access to benefit sharing; area-based management; and environmental impact assessment). Without appropriate capacity development and technology transfer, the other three major emphases of the BBNJ International Agreement will not be realized. This section delineates the need to develop further institutional and societal capacity to understand and act on ABNJ, in addition to continued development of capacity at the individual level.

2. RELEVANT INTERNATIONAL PRESCRIPTIONS ON CAPACITY DEVELOPMENT



Capacity development for BBNJ is not starting from a vacuum, and there are already many existing efforts by international and regional organizations that contribute to improved conservation and management of biodiversity in ABNJ. This section will take stock of what provisions exist in international law and policy relevant to ABNJ.

There is an existing and impressive "architecture" already in place on capacity development and technology transfer, emanating from the UNCLOS stream (1982 Convention, 1994 and 1995 implementing agreements), the UNCED stream (1992 UNCED, 2002 WSSD, 2012 Rio+20, Agenda 2030), as well as in related agreements—the 1994 Convention on Biological Diversity, the 2014 Samoa Pathway, the 2012 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and the 2015 Paris Agreement.

While this "architecture" of capacity development and technology transfer is excellent, there has been limited implementation of these provisions. In most cases, implementation has not been tied to a funding mechanism, nor to a follow-up mechanism to assess progress and impact. As well, more attention/work has been focused at the *individual* level of capacity development (training individuals), with less attention/work focused on building *institutional* and *societal* capacity.[4]

The major challenge thus is not to reconstruct these global prescriptions in the context of the ABNJ, but instead to build a tangible system of capacity development and technology transfer, focusing especially on what modalities could be employed, and what funding and follow-up mechanisms could be constructed.

Reflecting on the experiences gained through the GEF/FAO/GOF capacity project, it should be noted, as well, that expressed needs for capacity development vary considerable from region to region of the world, and that nations make clear linkages regarding capacity development along the continuum of coastal zones, Exclusive Economic Zones, and Areas Beyond National Jurisdiction—efforts to build capacity regarding ABNJ must benefit EEZ and coastal management at the national level as well. These points are addressed in further detail in Section 7 of the Policy Brief

2.1 UNCLOS provisions

Box 2 notes the UNCLOS provisions relating to capacity development and technology transfer.

Box 2. UNCLOS Provisions on Capacity Development and Technology Transfer

- Part XII on the "Protection and preservation of the marine environment"
- Part XIII on "Marine scientific research" (MSR)
- Part XIV on the development and transfer of marine technology
- Part XI on "the Area" provides for the promotion of international cooperation, including by encouraging cooperation in marine scientific research in the Area

4 Biliana Cicin-Sain, Miriam Balgos, Joseph Appiott, Kateryna Wowk, and Gwénaëlle Hamon. 2011. Oceans at Rio+20: How Well Are We Doing in Meeting the Commitments from the 1992 Earth Summit and the 2002 World Summit on Sustainable Development? Summary for Decision Makers. Global Ocean Forum. Summary of the eleventh meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea was held from 21 to 25 June 2010 and pursuant to General Assembly resolution 64/71, focused its discussions on the topic entitled "Capacity-building in ocean affairs and the law of the sea, including marine science" http://undocs.org/A/65/164

2.2 Other relevant international obligations

Other relevant international obligations also exist, and include, for example, outcomes of the World Summit on Sustainable Development and targets of Sustainable Development Goal 14, as noted in Box 3.

Box 3. Other Relevant International Provisions on Capacity Development and Technology Transfer

Agenda 21 (UNCED 1992)

- Public involvement (17.5)
- Human Resources Development (17.6)
- Regional Centers, Education, Training (17.1234); (17.135); (17.135); (17.6)
- Facilities, Centers, Demonstrations (17.17)
- Financial and Technical Resources (17.41); (17.69); (17.39)
- Research Facilities; Systematic Observations (17.40); (17.43)
- Institution Building, National Oceanographic Commissions (17.68; (17.95); (17.114)
- Capacity in Natural, Social Sciences (17.115)
- Special Capacity Needs of SIDS (17.136); (17.129); (17.1322); (17.137)
- Traditional Knowledge (17.15); (17.6)
- Fisheries and Aquaculture – Technology Transfer (17.93)

Johannesburg Plan of Implementation (WSSD 2002)

- Support and Cooperation (10(f)); (30(g)); (33(g))
- Institution Building (32(b)); 33(b))
- Traditional Knowledge (37(f))
- Support for SIDS (58(c)); (58(j))

Rio+20 (2012)

- "Capacity" is mentioned 47 times in the Rio+20 document "The Future We Want" and "capacity-building" is mentioned 40 times.
- Capacity development is treated as a cross-cutting aspect of sustainable development

Agenda 2030 (2015)

- SDGs adopted by countries in as part of 2030 Agenda for Sustainable Development
- 11 of SDGs have provisions on capacity development
- SDG 14 on Oceans and Seas: "Increase scientific knowledge, develop research capacity and transfer marine technology…"
- UN DESA divisions working in an integrated manner to assist nations in CD through capacity-building workshops, national training sessions together with UN Country Teams and UNDP

SIDS Samoa Pathway (2014) (following the Barbados (1994) and the Mauritius (2005) SIDS summits

Capacity Development Provisions include, among many others:

- Fostering entrepreneurship and innovation
- Supporting national, regional and international CD initiatives in SIDS
- Designing and implementing measures to enhance employment opportunities in sustainable tourism
- Increase technology, finance and support for mitigation and adaptation actions
- Build resilience to the impacts of climate change and to improve nations' adaptive capacity
- Address gaps in capacity for gaining access to and managing climate finance
- Undertake marine scientific research and develop the tech capacity of SIDS

Convention on Biological Diversity (CBD) (1994)

15.11. There is a need, where appropriate, to:

- (a) Strengthen existing institutions and/or establish new ones responsible for the conservation of biological diversity…;
- (b) Continue to build capacity for the conservation of biological diversity and the sustainable use of biological resources in all relevant sectors;
- (c) Build capacity, especially within Governments, business enterprises and bilateral and multilateral development agencies, for integrating biodiversity concerns…
- (d) Enhance the capacity of governmental and private institutions, at the appropriate level, responsible for protected area planning and management …

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2012)
Deliverable 1(b):

- IPBES has been mandated to integrate capacity development into all relevant aspects of its work and to undertake capacity-building activities that address the priority needs identified…
- Activities are to include technical assistance, train-

ing workshops, fellowship and exchange programmers and support for the evolution of national, subregional and regional science-policy…

- Also, this deliverable is implemented through the task force on capacity development…
- Part of the initial work Programme is the development of a clearinghouse mechanism (IPBES/1/INF/10), 2(c))

Paris Agreement (2015)

- Capacity-building for climate action: Paris Agreement, Article 11

1. Capacity-building should enhance the capacity and ability of developing country Parties, LDCs and SIDS, to take effective climate change action
2. Capacity-building should be country-driven, based on and responsive to national needs, and foster country ownership of Parties
3. All Parties should cooperate to enhance the capacity of developing country Parties to implement this Agreement
4. All Parties should regularly communicate CD actions or measures on capacity-building
5. Capacity-building activities shall be enhanced through appropriate institutional arrangements to support implementation

- Established Paris Committee on Capacity-building--Aims to address gaps and needs in implementing capacity-building in developing country Parties
- The Durban Forum on Capacity-building is an annual, in-session event organized under the auspices of the SBI that brings together stakeholders involved in building the capacity of developing countries to mitigate and adapt to climate change.

Bottom Line:

There are already important provisions on capacity development in the UNCLOS and in other relevant international agreements which have only seen limited implementation. The major challenge is not to reconstruct these global prescriptions in the context of ABNJ, but instead to build a tangible system for capacity development and technology transfer.

Expressed needs for capacity development vary considerably from region to region of the world, suggesting that future provisions of a new International Agreement should be cognizant of regional diversity and provide the opportunity for tailoring solutions to the particularities of different regions.

National and regional representatives make clear linkages regarding capacity development along the continuum of coastal zones, territorial seas, Exclusive Economic Zones, and Areas Beyond National Jurisdiction. Efforts to build capacity regarding ABNJ must benefit EEZ and coastal management at the national level as well.

3. REVIEW OF WHAT HAS COME OUT OF THE BBNJ PREPCOM PROCESS

The recommendations of the Preparatory Committee on the Development of an international legally binding instrument (International Agreement) under UNCLOS on BBNJ as contained in the PrepCom4 report[5] indicated elements that should be considered with a view to the development of a draft text of a new international legally-binding instrument on BBNJ under UNCLOS (sections A and B of the PrepCom4 Report) although the elements do not reflect consensus. Section A includes non-exclusive elements that generated convergence among most delegations while Section B highlights some of the main issues on which there is divergence of views. Sections A and B are for reference purposes because they do not reflect all options discussed.

Under the non-exclusive elements that generated convergence among most delegations (Section A of the PrepCom4 report), the International Agreement would address the objectives of capacity building and technology transfer (CB&TT) in supporting the achievement of BBNJ conservation and sustainable use by developing and strengthening the capacity of states which may need and request it, particularly developing states, to assist them to fulfill their rights and obligations. Drawing on existing instruments, such as the Convention and the Criteria and Guidelines on Transfer of Marine Technology of the Intergovernmental Oceanographic Commission, the International Agreement would include an indicative, non-exhaustive list, which could be developed at a later stage, of broad categories of types of capacity-building and transfer of marine technology, such as: scientific and technical assistance, including with regard to marine scientific research for example through joint research cooperation programmes; education and training of human resources, including through workshops and seminars; and data and specialized knowledge.

The International Agreement would also provide modalities for Capacity Building and Technology Transfer (CB&TT), including the possibility for such modalities to: be country-driven and responsive to needs and priorities; develop and strengthen human and institutional capacities; be long-term and sustainable; and develop marine scientific and technological capacity of states.

The International Agreement would also elaborate on forms of cooperation and assistance in relation to MGRs, measures such as area-based management tools (ABMTs), including marine protected areas (MPAs), and environmental impact assessments (EIAs); address provision of funding and resources; and address the issue of monitoring and review of the effectiveness of CB&TT, and possible follow-up action. The International Agreement should recognize the special requirements of developing countries, in particular LDCs, LLDCs, SIDS, geographically disadvantaged states, as well as coastal African states.

Under the issues on which there is a divergence of views (Section B of the PrepCom4 report), further discussions are required on the terms and conditions for the transfer of marine technology.

3.1 Scope of and modalities for capacity band technology transfer

The following is an abbreviated content of the scope of and modalities for capacity development and technology transfer from the Chair's streamlined non-paper on elements of a draft text of an international legally-binding instrument under UNCLOS on BBNJ at the conclusion of the preparatory process.[6]

Both capacity-building and transfer of marine technology could address: Access, collection, analysis and use of data, samples, publications and information; Implementation of UNCLOS obligations to promote the development of marine scientific research capacity in developing States and to promote the transfer of marine science and technology; Benefits from developments in marine science related activities; Capacity-building in respect of access and benefit sharing; Development, implementation and monitoring of ABMTs, including MPAs; Conduct and evaluation of EIAs, and participation in SEAs; Implementation of the Sustainable Development Goals, in particular Sustainable Development Goal 14.

5 UN GA (2017) Report of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. Fourth session New York, 10-21 July 2017. A/AC.287/2017/PC.4/2. http://undocs.org/A/AC.287/2017/PC.4/2

6 UN DOALOS (2017) Chair's streamlined non-paper on elements of a draft text of an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. Fourth Session of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (10 – 21 July 2017). http://www.un.org/depts/los/biodiversity/prepcom_files/Chairs_streamlined_non-paper_to_delegations.pdf

Scope of capacity development

The following options on the types of capacity-building activities for inclusion in the instrument could be considered: Option 1. A list would not be included given that it might be too prescriptive and could hamper the ability to adapt to future developments. A general requirement would be included in the instrument leaving details to be possibly determined at a later stage by an ad hoc working group; Option 2. An indicative, non-exhaustive list, which could include, at various levels: Development of human resource and institutional capacity; Individual capacity-building; Scientific, educational, technical assistance; Assistance in policy development, implementation, and enforcement; Establishment or strengthening of relevant organizations/institutions' capacity; Access to and acquisition of necessary knowledge and materials, information, and data; Awareness-raising and knowledge sharing, including on marine scientific research; Development of joint research cooperation programmes, technology in marine science, necessary infrastructure, acquisition of necessary equipment to sustain and further develop R&D capabilities in country, including data management; Collaboration and international cooperation in scientific research projects and programmes.

Scope of technology transfer

Any definition of transfer of marine technology would need to be broad enough to take account of future developments in science.

The IOC Criteria and Guidelines on the Transfer of Marine Technology provide an important reference point, and details could be included on what is considered technology for the purpose of technology transfer, with the possibility for revision to meet the requirements of the instrument.

Technology transfer could include the following:

- Access to technology that is appropriate, reliable, affordable, modern and environmentally sound.
- Hard technology as well as other associated aspects such as computers, autonomous underwater vehicles and remotely operated underwater vehicles.
- Specialized equipment, such as acoustic and sampling devices, multi-beam echo sounding, acoustic underwater positioning systems.
- Observation facilities and equipment, in situ and laboratory observations.
- IT infrastructure that would allow advanced data analysis and storage of data.
- Data and specialized knowledge inclusive of, but not limited to, equipment, manuals, sampling methodology, criteria, reference materials, guidelines, protocols, samples, processes, software, methodologies and infrastructure.
- Institution building at the regional, sub-regional and national levels, including for the management of data.
- Training and technical advice and assistance necessary to assemble, maintain and operate a viable system and the legal right to use these items for that purpose on a nonexclusive basis.
- Innovative financial mechanisms for marine technologies.

Modalities for capacity-building and technology transfer

- Capacity-building and technology transfer could be provided as follows: Through clear, simple, targeted procedures and modalities; on a case-by-case basis, country specific and needs driven, to provide tailored solutions for States requiring it.
- Capacity-building and transfer of marine technology would need to be responsive to national and regional needs, priorities and requests, with flexibility to adapt to changing needs and priorities. Needs could be evaluated through: Periodic needs assessments; a holistic evaluation of existing capacities; and data from the Sustainable Development Goals indicators.
- Transfer of marine technology could be provided as follows: Option 1: On fair and reasonable terms and conditions as well as through favorable terms and conditions; Option 2: On a voluntary basis, on mutually agreed terms and conditions that respects intellectual property rights and fosters science, innovation, research, and development; Option 3: On a voluntary basis, on favorable terms, including on concessional and preferential terms, as mutually agreed.
    - Cooperation at all levels would be important and could be facilitated through, e.g., North-South, South-South and triangular cooperation and partnerships; Collaboration between Regional Seas Programmes and RFMOs; Development of joint scientific research projects; Sharing knowledge; Joint venture arrangements and advisory and consultative services.
    - Development of human resources as well as technical and research capabilities related to the objectives and material scope of the instrument could be effected through the following: Creation of training opportunities at all levels; Establishment of mentoring and partnerships; Development of regional centres for skill development; Establishment of a global scholarship programme to foster science, policy and governance research on BBNJ in a similar manner to the

United Nations – Nippon Foundation of Japan Fellowship Programme; Development of a strong global professional alumni network.

- Best practices and lessons learned from existing mechanisms would need to be utilized wherever relevant and applicable, including: The mechanism under the ISA; CBD, article 16; The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing.

Clearing-house mechanism

- A global system, linking clearing-house mechanisms networks at the global, regional and national levels and providing a central "one-stop shop" access to information could be established.
- The interoperability and linkages between existing clearing-house mechanisms could also be improved.
- A clearing-house mechanism could perform the following functions: Provide a platform or repository of knowledge; Help to ensure quick/one-stop access to information on capacity-building and technologies in relation to the objectives and scope of the instrument; Promote and facilitate access to corresponding expertise and know-how; Provide information on existing opportunities and projects, activities and programmes occurring in ABNJ and a method for matching needs and opportunities; Identify best practices and recognize gaps to better support the implementation of the instrument; Develop initiatives at all levels; Promote international coordination and collaboration; Facilitate open access to samples and knowledge.
- A Secretariat or other institutions could be in charge of administering the clearing-house mechanism.
- A clearing-house mechanism could build on and not duplicate existing instruments, mechanisms and frameworks relevant to BBNJ.

Funding

- A funding mechanism(s) to ensure adequate, predictable and sustainable funding for capacity-building and transfer of relevant marine technology, as well as to promote the establishment of genuine partnerships between the private sector and private and public actors in developing countries, could be established as follows: Option 1: A voluntary trust fund would be established; Option 2: An existing funding mechanism would be utilized, for example the Global Environment Facility; Option 3: A special fund and other distinct funding mechanisms such as a rehabilitation or liability fund, as well as a contingency fund would be established; Option 4: A combination of voluntary and mandatory mechanisms.
- Funding would be provided through: Voluntary and mandatory proceeds; Existing funding mechanisms such as the Nagoya Protocol, and ISA capacity-building funding arrangements could be models to draw from; Contributions resulting from the access to and utilization of marine genetic resources; premiums paid during the approval process for EIAs; penalties incurred for noncompliance for EIAs; and a percentage of the amount paid for the transfer of technology; Contributions from sponsoring States or private entities proposing to explore and exploit BBNJ.
- The funding mechanism could be integrated with the climate change mechanism, and similar funding mechanisms, for instance taking into account carbon footprints.
- Contributions to the fund would be open to Member States, other entities as well as nongovernmental organizations, foundations, research centres, individuals, etc.
- New ocean sustainability finance tools could be considered, such as the Coalition for Private Investment in Conservation.
- The fund could be used to fund capacity-building and transfer of marine technology related activities and programmes, including: Finance the participations of developing countries in major meetings under the instrument; Assist developing countries in meeting their commitments under the instrument; Support scholarships and fellowships, programmes, training, and other opportunities for nationals of developing countries; Support regional scientific and technological centres; Support the development a clearing-house for capacity-building and transfer of marine technology.
- Any funding mechanism would need to have minimal conditionality for access and use of funds.
- The resources for capacity-building and technology transfer would need to be promptly received by the target State.
- Priority access to a fund and preferential treatment could be given to SIDS and LDCs.
- The fund could have dedicated earmarking for vulnerable States.

Monitoring, review and follow-up

- A monitoring, review and follow-up process could: Enable the review on a periodic basis of the capacity constraints faced by developing countries, in particular SIDS, so that the recipient countries and regions' needs could be adequately met, on a stable and long-term basis; Quantitatively and qualitatively measure the success of capacity-building and technology transfer efforts collaboratively at all levels.
- A monitoring, review and follow-up process could be carried out through the following: An advisory (scientific and/or technical) or decision-making body under the instrument; A review conference and/or meeting of the States Parties could be convened on a regular basis to assess the needs and to fill in the gaps; States Parties could be made aware of the progress made in capacity-building under the instrument; A review process that would be inclusive of all stakeholders.
- Reporting requirements could be established that would be regular, transparent, comprehensive and streamlined for SIDS and facilitate periodic and systematic reviews, including of needs and priorities.

3.2 Intergovernmental conference on BBNJ

The United Nations General Assembly decided to convene an Intergovernmental Conference, under the auspices of the United Nations in its resolution 72/249 of 24 December 2017, to consider the recommendations of the Preparatory Committee established by resolution 69/292 of 19 June 2015 on the elements and to elaborate the text of an international legally binding instrument under the United Nations Convention on the Law of Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. The Conference held a three-day organizational meeting in New York, from 16 to 18 April 2018, after which it will meet for four sessions of a duration of 10 working days each, with the first session taking place in the second half of 2018, the second and third sessions taking place in 2019, and the fourth session taking place in the first half of 2020, with the dates to be decided upon by the General Assembly. The first session of the Conference (IGC-1) will be convened from 4 to 17 September 2018.[7]

At the organizational meeting, delegates deliberated on the process towards the preparation of zero draft of the instrument. The organizational meeting took decisions on the: election of a Conference President; establishment of the format for the first session of the Conference (IGC-1); rules of procedure; establishment of a bureau and a credentials committee; and preparation of a document to guide discussions at IGC-1. Delegates also agreed to address the four elements of the 2011 package in the substantive discussions at IGC-1, as mandated by resolution 72/249, which are: 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, as well as how to discuss cross-cutting issues.[8] Subsequently, on June 25, 2018, a "President's aid to discussions" was released which identifies issues that need to be further discussed in respect to all elements of the package and cross-cutting issues, and includes a limited number of possible questions to be addressed, including, in some cases, possible options in relation thereto.9

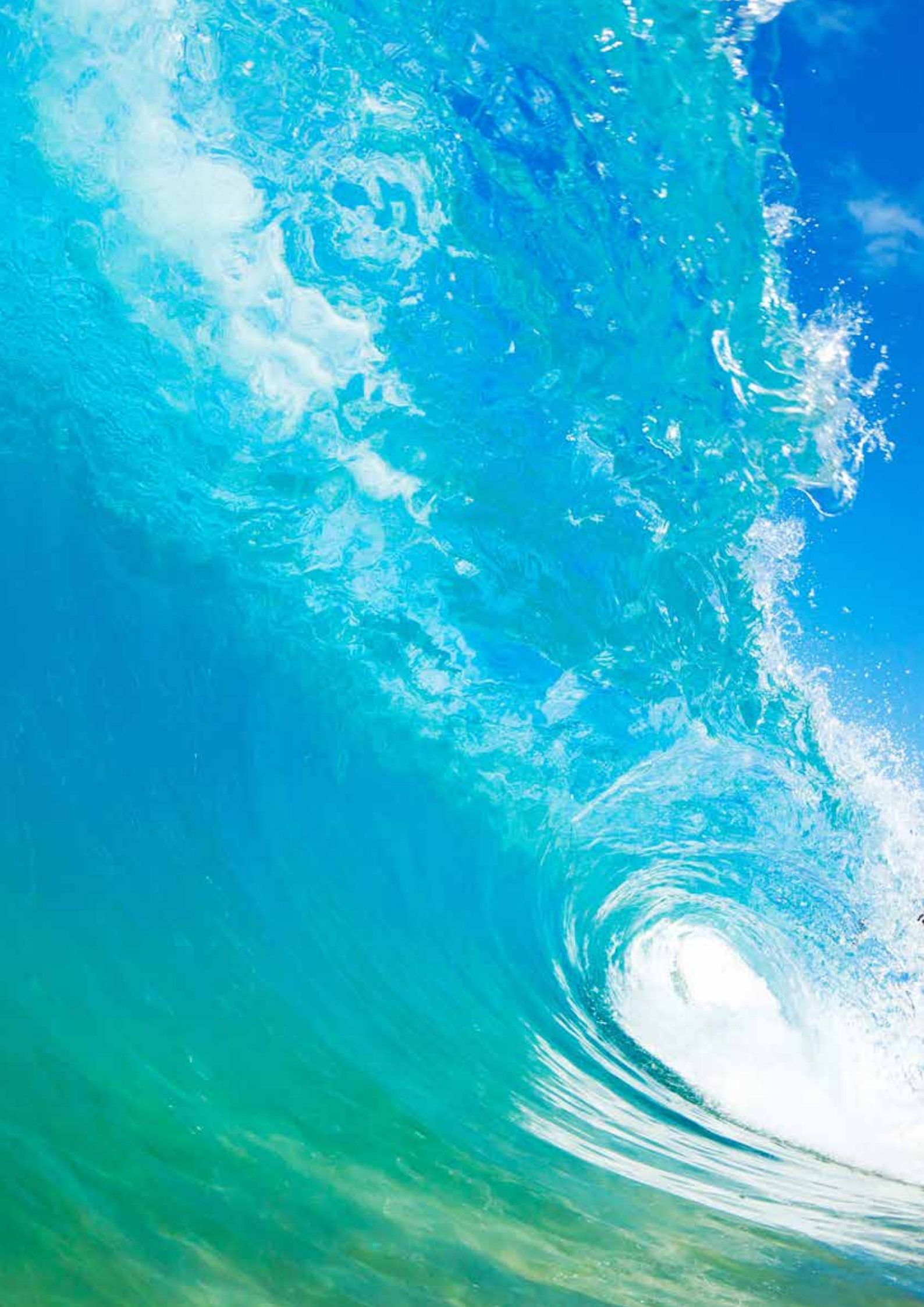
Bottom Line:

The discussions carried out so far in the BBNJ process have gone a long way in laying out a broad vision of capacity development and technology transfer, especially regarding scope and principles that should guide the endeavor. More detailed discussions are needed at this point, especially in terms of possible modalities for building capacity at global, regional, and national levels; the development of a clearing-house mechanism; the development of sustained financing; and the development of a regular process for monitoring, review, and follow-up.

7 United Nations (no date) Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (General Assembly resolution 72/249). https://www.un.org/bbnj/

8 IISD Reporting Services (2018) Summary of the Organizational Meeting for the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: 16-18 April 2018. BBNJ Briefing Note. Friday, 20 April 2018. http://enb.iisd.org/oceans/bbnj/org-session/brief/bbnj_org_session.pdf

9 UN General Assembly, A/CONF.232/2018/3. Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, President's aid to discussions, 25 June 2018.



4. EXISTING EFFORTS IN CAPACITY DEVELOPMENT BY UNITED NATIONS, INTERNATIONAL ORGANIZATIONS, NON-GOVERNMENTAL ORGANIZATIONS, AND THE ACADEMIC SECTOR RELEVANT TO BBNJ

4.1 Introduction

This section examines the organizational frameworks of existing capacity development efforts as well as the organizations involved, as shown in Figure 1.

In this section, we provide a brief summary of existing activities related to capacity building regarding ABNJ on the basis of a survey we conducted of existing efforts in capacity building relevant to ABNJ during March to June 2018. Respondents were asked to report on the type of capacity development carried out by their organization regarding ABNJ and at what level (whether global, regional, national), major topics in BBNJ addressed by the capacity building efforts, issues addressed, objectives, target participants, region/country served, number of participants served, methodology, and impacts for each capacity project, as well as budget and website of each effort if possible.[10] The following entities provided responses, which are summarized in the Annex.

UN/International Organizations:

Secretariat of the Convention on Biological Diversity (CBD)

Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations

Food and Agricultural Organization of the United Nations (FAO)

The Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO)

International Ocean Institute (IOI)

International Seabed Authority (ISA)

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)

Civil Society (NGOs, foundations, academic institutions):

Global Ocean Forum

Greenpeace International

Greenpeace USA

Institute for Advanced Sustainability Studies

International Chamber of Shipping

International Ocean Institute

Intramerican Association for Environmental Defense

Islands First

Natural Resource Defense Council (NRDC)

Nausicaá National Sea Centre

The Nippon Foundation

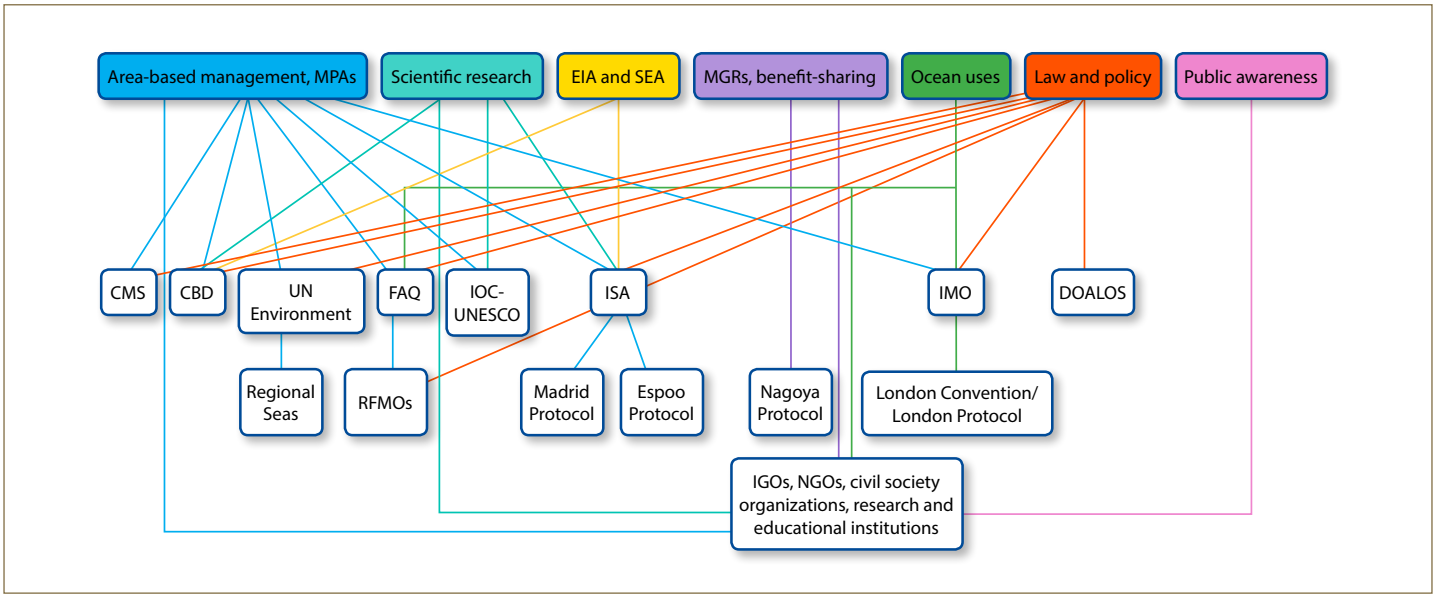
Ocean Care

Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF)

Pew Charitable Trusts

Tara Expeditions Foundation

Figure 1. Capacity Building Provided by ABNJ Priority Area



10 Special thanks are due to Miriam Balgos and to Alexis Maxwell for their work in coordinating the survey and to Miko Maekawa and Iwao Fujii for their extensive contributions to the data base. Other organizations involved in ABNJ capacity building, not included in this analysis, are invited to contribute to the survey by contacting the project organizer, bilianacicin-sain@globaloceanforum.org

Vietnam National University
World Maritime University
World Wildlife Fund (WWF)

4.2 Existing capacity building efforts by UN and international organizations

Five UN organizations (CBD, DOALOS, FAO, IOC/UNESCO, and ISA) and an international organization (PEMSEA) participated in the survey of existing efforts on capacity building and technology transfer in ABNJ. Among the broad categories of types of capacity-building and transfer of marine technology, the majority of the capacity building activities focused on education and training of human resources (individuals), such as: 1) Conferences, workshops, seminars, dialogues, webinars; 2) short-term training sessions (face-to-face or online), university courses, lectures, and training of trainers; 3) fellowships, internships, and research awards; 4) laboratory analyses, field work and hands-on activities; 5) outreach programs, knowledge exchange, and networking; and 6) combinations of any of the above. The first two types mentioned were the most common, and thus, most of them were short-term (between some hours to two weeks-long). There were a few that belonged to the category of scientific and/or technical assistance, including with regard to marine scientific research, for example, compliance support missions, testing and piloting of innovative technology, advising, and endowment fund for marine scientific research. There were capacity building activities which focused on the production of data and specialized knowledge including conduct of studies, development of knowledge material, publications (briefing papers, technical reports, reports of workshops/seminars), information portal, legislative template, manuals and guidelines, training materials, and standard operating procedures. It is difficult to provide an overall figure of budgetary allocations to or expenditures on capacity building activities by these organizations since not all six were able to provide the amounts expended in the conduct of the capacity-building activities and there were recurring activities (annually) that have been going on for multiple years.

True to their mandates, it is important to note that most of the capacity building activities reported by the UN and international organizations were country-driven. In terms of focal area of cooperation and assistance in relation to elements of the 2011 package: 1) only three of the six UN/international organizations covered MGR; 2) three covered measures such as area-based management tools (ABMTs), including marine protected areas (MPAs); and 3) only two covered EIA. The broad topics covered mostly focused on: 1) integrated/ecosystem-based ocean and coastal management; 2) fisheries management; and 3) marine biology/marine environment/marine resources, scientific research (not ABNJ-specific). All six organizations addressed the special requirements of developing countries; only three specifically addressed SIDS; only two organizations specifically addressed LDCs; and only one (DOALOS) addressed land-locked States. Finally, only the capacity building activities carried out by DOALOS, FAO, and ISA were ABNJ-specific; however, the other capacity building activities were highly relevant to ABNJ--those by the CBD Secretariat, IOC/UNESCO, and PEMSEA.

4.3 Existing capacity building efforts by civil society

A number of non-governmental organizations, civil society and educational institutions undertake capacity development of direct relevance to ABNJ. This section provides a summary listing of these efforts. For an example, see Box 4 for information on the assessment of capacity development needs in ABNJ conducted by the Global Ocean Forum.

NGOs and other civil society organizations have been playing an important role in enhancing capacities for ocean-related matters over the past decades. The 17 civil society organizations which participated in this survey of existing capacity building efforts, can be broadly categorized into four groups: 1) environment and conservation-oriented NGO; 2) private foundations; 3) research institutes; and 4) industry organizations. Most of these organizations are based in developed countries and provide capacity building opportunities to participants from developing countries in the form of workshops, short-term training courses, joint-research, scholarships or fellowships for master's and/or PhD work, and internships. In terms of discipline, they encompass both natural science and social science, and topics range from oceanography, ocean bathymetry, marine resources management, maritime affairs, maritime law, international maritime dispute settlement, international law, marine conservation, ocean governance, climate change, sustainable development to international negotiations. These capacity building programs mostly target individuals, and not so much at the institutional and societal levels. The volume of annual budgets of these programs are relatively small compared to those of national and international public projects. Globally, universities play a fundamental role in ocean-related education and academic research, and therefore, their contributions should be assessed in a more comprehensive manner.

Most of the NGOs and foundations offer training and capacity building efforts by providing fellowships or grants to students, early to mid-career professionals, scientists, lawyers, administrators and policy-makers, to study at internationally recognized academic institutions. For instance,

Box 4. Assessment of Capacity Development Needs in ABNJ (2016)

Within the framework of the *GEF/FAO/GOF Project on Strengthening Global Capacity to Effectively Manage Areas Beyond National Jurisdiction (ABNJ)* (ABNJ Capacity Project), the Global Ocean Forum carried out a capacity needs assessment in ABNJ to determine existing capacity and the future/desired/needed capacity in the management of marine areas beyond national jurisdiction (ABNJ) for developing countries and small island developing States (SIDS) at the national and regional levels through an online survey. The results of the survey can inform decision-makers at national, regional, and global levels involved in policy-making, management, and sustainable use of marine resources in ABNJ about capacity development needs related to ABNJ and possible avenues for addressing capacity development gaps.

In June-July 2016, the survey invited 250 global, regional, and national decision-makers to participate in this assessment via a letter of introduction and a link to an online survey. These decision-makers were leaders in global organizations (such as FAO, the UN Environment, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), and the United Nations Development Programme (UNDP)), regional organizations (such as Regional Seas Programmes, Regional Fisheries Management Bodies, the Caribbean Community (CARICOM), the Permanent Commission for South Pacific, and regional conventions (such as the Nairobi Convention)), and national organizations (which includes permanent missions, other government organizations, nongovernmental organizations, and academic and research institutions). There were 138 responses, for a response rate of 55%. Most of the respondents were from national and regional organizations. The position of the respondents varied, ranging from officers/advisors/counsellors, scientists/specialists, to Executive Secretary/Director.

In the survey, respondents were asked: 1) how often they used legal and policy frameworks governing ABNJ; 2) how often they use various tools and approaches that could be used for the management of ABNJ; 3) if capacity was a constraint in the management of ABNJ at the national and regional levels; 4) what capacity was needed at the national and regional level if capacity was a constraint; and 5) what factors constrained collaboration in ABNJ, among other questions.

Below are some excerpts from the survey findings:

When asked how often they used legal and policy frameworks governing ABNJ, respondents report using UNCLOS the most to "carry out essential functions" of their jobs, with 40% reporting UNCLOS as an essential framework for their work (Table 1).

Table 1: Use of legal and policy frameworks in ABNJ.

Question	Use to do my job	Use regularly or sometimes	Use rarely/ never	Want more info
United Nations Convention on the Law of the Sea (UNCLOS) (1982)	40%	60%	8%	3%
Agreement relating to the implementation of Part XI of the UNCLOS of 10 December 1982 (1994)	19%	46%	39%	8%
1995 UN Fish Stocks Agreement	30%	54%	20%	8%
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention/Protocol) (1972)	10%	48%	42%	8%
The International Convention for the Prevention of Pollution from Ships (MARPOL)	10%	49%	40%	8%
Convention on Biological Diversity (CBD) (1992)	23%	58%	16%	6%
FAO Code of Conduct for Responsible Fisheries	29%	50%	19%	10%
International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, Unregulated Fishing	27%	45%	25%	12%
FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas	25%	36%	30%	16%
Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing	21%	49%	24%	11%
Regional Seas Conventions and Action Plans	26%	36%	29%	16%
Large Marine Ecosystem and associated frameworks	18%	54%	24%	15%

MARPOL and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention/Protocol) (1972) were tied for the least used to "carry out essential functions" of their jobs, with 10% of respondents reporting this to be the case. The FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas and Regional Seas Conventions and Action Plans had the most respondents wanting to know more (16%).

Respondents reported high levels of constraint for ABNJ management, 59% of respondents at the national level and 45% at the regional level reported capacity was a major constraint to ABNJ management. Scientific/ technical and policy/legal capacity were specified as being needed the most to ease management constraints. These responses included data gathering, scientific research or assessment, and the need to understand legal frameworks and International Agreements. Responses on awareness/understanding of ABNJ issues indicated a higher level of understanding of ABNJ issues and management at the regional level. This may be in part due to some regional organizations already working in ABNJ, though several respondents noted that many regional (and global) organizations are driven by the needs/ desires of the States that make up those organizations. Therefore, building awareness/understanding, especially for decision-makers, policy makers, negotiators, and legal experts at the national level may help increase awareness/understanding at the regional and global levels and decrease constraints to ABNJ management. Financial constraints accounted for 13% of responses for constraints to ABNJ management at the national and regional levels, and ranked as the highest constraint for collaboration in ABNJ (24% of respondents). Transfer of marine technology has been discussed widely in deliberations on capacity on ocean management in general. However, when asked whether and how their institutions had used the IOC-UNESCO Guidelines for Technology Transfer, 52% indicted that they had never used the guidelines, and 65% of respondents noted that they want to know more.

Responses to the survey indicate capacity development should not be limited to technical/scientific matters, but should also include trainings and workshops for policy makers, legal advisors, and negotiators. Building awareness on ABNJ, including opportunities for management and the connection to EEZs, was desired at the national level, indicating that building this capacity may help drive policy development both within ABNJ and within national jurisdictions. Even though enforcement is often discussed as a major constraint to ABNJ management, it was at the bottom of responses to constraints to capacity. Some responses also indicated the need for more education in schools and universities, stressing the need to build future awareness and capacity early. Courses at the regional level on ABNJ are a top desire to build capacity. These courses could be tailored to be region specific to emphasize particular needs or issues of the region. Lastly, dialogues surrounding ABNJ should involve leaders from the national, regional, and global levels. Respondents indicated these dialogues are important for building cooperation, learning from experiences, and increasing coordination.

GOF Survey Results Link:
http://www.fao.org/fileadmin/user_upload/common_oceans/docs/FinalEmailVersionCapacitySurvey_em_071617b.pdf

the Nippon Foundation and the Sasakawa Peace Foundation have been providing comprehensive fellowship programs over the last 30 years, which amounts to around US$ 100 million, allowing students to study at the World Maritime University, the IMO International Maritime Law Institute, amongst others. The Pew Charitable Trusts offer fellowships for marine conservation to mid-career professionals. NGOs are also active in conducting training workshops and exhibitions in raising awareness on issues related to high seas. Recently, joint research and training programmes were carried out by Tara Expeditions, with an aim to contribute to raising scientific capacities of professionals from developing States. Industry organizations such as the International Chamber of Shipping, provides specific training on industry standards such as the International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code). Particular training courses on ABNJ in general and on BBNJ negotiations in particular are carried out by the Global Ocean Forum (together with GEF and FAO) and Islands First, to assist officials and personnel from developing countries including SIDS. These courses have a particular focus on issues such as marine protected areas (MPAs) reflecting the themes of BBNJ under the UN resolution.

Among the civil society organizations surveyed, about one third of the participating NGOs highlight high seas as a focus theme. Otherwise, the capacity building opportunities do not make particular distinction between EEZ and ABNJ (not ABNJ-specific), such as those related to maritime affairs. Through

most of the training activities mentioned above, participants can earn specific certificates, qualifications and degrees, which could be lifetime assets. Another aspect worth mentioning is the efforts to build strong network of professionals after their training sessions, for example, by maintaining contacts among the alumni of the WMU Sasakawa Fellowship or building network of scientists from both developed and developing countries by Tara Expeditions.

4.4 Scientific collaboration

Many scientific research institutions already undertake capacity development to various degrees. These efforts include shared scientific research cruises, joint development of marine genetic resources, and collaboration among scientists to publish resulting data. Some universities also provide training and educational opportunities, including short courses and master's degrees, for early and mid-career scientists and policymakers.

Selected examples of scientific capacity development include efforts by the IOC of UNESCO to train scientists in various specialized technical and scientific topics; to form collaborative networks of scientists; and to develop leadership capacity of directors of marine and coastal sciences institutes, in order to strengthen scientific, legal and institutional structures.[11] Another example of scientific capacity development relevant to ABNJ is the FAO EAF Nansen Programme, funded by the Government of Norway. The third R/V Dr Fridtjof Nansen Research vessel will operate in the waters of developing countries in the years ahead, under the auspices of FAO. The vessel will conduct fish stock surveys and do marine research in order to enhance knowledge of the serious challenges the world's oceans are facing related to pollution, climate change and unsustainable fishing practices. As part of the surveys, local marine researchers and fisheries managers will receive training on board.[12]

Examples of research collaboration relating to the discovery and development of marine genetic resources also exist. While not oriented towards ABNJ specifically, they may provide opportunities for related capacity development, and are summarized in Box 5.

In general, scientific capacity development activities are currently ad hoc and not coordinated across different institutions. A more integrated approach with coordination and information sharing would better benefit developing countries in implementing the new International Agreement. A central clearing-house of opportunities (see section 5) would be one way to provide for coordination.

4.5 National efforts related to ocean science and their impacts on international scientific collaboration in support of the International Agreement

In providing for capacity development, the new International Agreement would need to rely on existing and planned efforts to strengthen ocean science.

The first edition of the Global Ocean Science Report (https://en.unesco.org/gosr) was presented on 8 June 2017 at the United Nations Ocean Conference, held at UN headquarters in New York. The GOSR assessed for the first time the status and trends of ocean science capacity around the world. This report offers a global record of how, where, and by whom ocean science is conducted: generating knowledge, helping to protect ocean health, and empowering society to support sustainable ocean management, in the framework of the United Nations 2030 Agenda on Sustainable Development.

The GOSR identifies and quantifies the key elements of ocean science at the national, regional and global scales, including workforce, infrastructure and publications. It represents a first collective attempt to highlight opportunities, as well as capacity gaps, to advance international collaboration in ocean science and technology. It is expected that future editions of this report will assist to track changes in ocean science capacities and related outcomes at the national, regional and global level.

Part of the information provided in the GOSR contains the data needed to officially report towards implementation of SDG target 14.A, *addressing scientific knowledge, developing research capacity and the transfer of marine technology.*

The main findings of the first edition of the GOSR are as follows:

1. **Global ocean science is 'big science.'** Conducting ocean science requires numerous staff and large and costly equipment such as ships, ocean installations and laboratories located on the coast. These resources are distributed around the world comprising, for example, 784 marine stations, 325 research vessels, and more than 3,800 Argo floats.
2. **Ocean science is multidisciplinary.** Most ocean science facilities work across a broad range of issues (39 %), whereas others specialize on observations (35 %) or fisheries (26%).
3. **There is more equal gender balance in ocean science than in science overall.** Female scientists represent on average 38 % of the researchers in ocean science, about 10 % higher than science overall.
4. **Ocean science expenditure is highly variable worldwide.** According to available data, ocean science accounts for between 0.1 % and 21 % of natural science

11 http://www.unesco.org/new/en/natural-sciences/ioc-oceans/sections-and-programmes/capacity-development/
12 https://oceanconference.un.org/commitments/?id=19814

Box 5. Some Existing and Potential Capacity Development Opportunities Relating to Marine Genetic Resources

- PharmaSea is a large-scale, four-year project is backed by more than €9.5 million of EU funding and brings together 24 partners from 13 countries from industry, academia and non-profit organisations. PharmaSea focuses on the biodiscovery and the development and commercialisation of new substances from marine organisms. Its primary goal is to collect samples from the oceans, home to some of the hottest, deepest and coldest places on the planet. These samples will be screened to uncover marine microbes and new bioactive compounds to evaluate their potential as novel drug leads, and antibiotics. World-leading experts from Belgium, UK, Norway, Spain, Ireland, Germany, Italy, Austria and Denmark as well as partners from China, South Africa, Chile, Costa Rica and New Zealand work together to hunt for novel antibiotics. (http://www.pharma-sea.eu/pharmasea.html)
- Australian Institute for Marine Science (AIMS): AIMS has been involved in biodiscovery for 15 years and has explored Australia's mega-marine biodiversity for attributes with commercial application. The cornerstone of AIMS' biodiscovery effort is its substantial marine bioresources library. This collection, which is constantly expanding through ongoing sample acquisition, has been sourced from over 1,500 sites across Australia. (http://www.aims.gov.au/docs/research/sustainable-use/biodiscovery/biodiscovery.html)
- University of Aberdeen Marine Biodiscovery Centre: The Biodiscovery Centre has a large library of extracts and pure compounds from marine biota. This library is available to be used for biological research and drug discovery under licence. The Centre also brings together complementary expertise in biology, chemistry, chromatography and spectroscopy. (http://www.abdn.ac.uk/ncs/departments/chemistry/marine-biodiscovery-centre-112.php). University of Aberdeen currently collaborates with University of the South Pacific, Fiji, The Australian Institute of Marine Science and the National Biodiversity Institute (INBio) in Costa Rica on marine natural products for drug discovery. (http://www.abdn.ac.uk/ncs/departments/chemistry/research-projects-119.php)
- Queens University Belfast Marine Biodiscovery: The Beaufort Marine Biodiscovery research programme was established as a multidisciplinary research consortium to build capacity in the Marine Biotechnology area within Ireland. The programme focuses on the discovery of new drugs and advanced bio-materials from marine animals, algae and microorganisms. The programme is an important part of the overall objectives of "Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland", where Marine Biotechnology "Blue Growth" has been identified as a potentially important economic driver. (http://www.qub.ac.uk/research-centres/MarineBiodiscovery/)
- University of South Pacific Centre for Drug Discovery & Conservation (CDDC): This unit established in 2001 engages in bioprospecting, including looking for antibacterial, antifungal as well as anticancer activity from marine and terrestrial samples. The work is undertaken in collaboration with Georgia Institute of Technology and Scripps Institute of Oceanography. CDDC has worked with communities in Fiji to train them as sample collectors and processors, as well as for monitoring. Community members receive income, the projects have financed community-based conservation, and should commercial development be successful, benefit-sharing with communities will take place. One example was a partnership in Verata, Fiji, with USP and Strathclyde University, which facilitated marine bioprospecting and putting in place local marine conservation. (https://www.cbd.int/financial/bensharing/fiji-medicine.pdf and https://www.usp.ac.fj/index.php?id=18023)
- Griffith University Eskitis Institute for Drug Discovery and its partners have established Nature Bank, which is a collection of over 63,000 samples of plants and marine invertebrates from tropical Queensland, Tasmania, China, Malaysia and Papua New Guinea, collected in accordance with the UN Convention on Biological Diversity. These samples have been processed into a library of over 200,000 natural product fractions ready for high throughput screening against any disease. Nature Bank is already being used to search for new drugs for malaria, sleeping sickness, cancer, Parkinson's disease, schizophrenia, stroke, thrombosis, tuberculosis, HIV, alzheimer's and many others. (https://www.griffith.edu.au/science-aviation/eskitis-institute/nature-bank)
- University of Papua New Guinea (UPNG) Molecular Biodiscovery and Biomedicines Research Laboratory has established strong collaboration with Professor Raymond Andersen of the University of British Columbia, Canada, in the area of marine natural products discovery. This relationship has resulted in significant work and technology transfer towards research infrastructures and training in UPNG. (http://www.victorj-temple.com/BMS%20SMHS%20Update%202010.pdf)
- Centre National de Recherches Océanographiques in Madagascar collaborates on marine bioprospecting with the Virginia Polytechnic Institute and State University (VPISU), Dow Agro Science Ersa Research Institute (ERI) and Conservation International as part of the U.S. government-funded International Cooperative Biodiversity Groups (ICBG) Program. (http://cnro.recherches.gov.mg/?BIOPROSPECTION-MARINE)

expenditure and between. From 2009 to 2013, ocean science expenditure varied among regions and countries, some increased their annual expenditure on ocean science, while others significantly reduced it.

5. **Ocean science benefits from alternative funding.** Private funding, including philanthropy, in some cases provides supplemental support for ocean science and enables the development of new ocean science technologies.
6. **Ocean science productivity is increasing.** Ocean science is expanding in magnitude and scope, resulting in greater scientific output. When comparing the time periods 2000– 2004 and 2010–2014, China, Iran, India, Brazil, Republic of Korea, Turkey and Malaysia show the strongest relative growth in scientific output. China has become a major source of new publications, with the USA, Canada, Australia and European nations (UK, Germany, France, Spain and Italy) continuing as top producers of ocean science publications.
7. **International collaboration increases citation rates.** Generally, North American and European countries have a multiplying factor or impact factor (ratio of citations to publications) higher than countries from other parts of the world. The extent to which a country is engaged in international collaboration influences its citation rates. On average, publications that are co-authored by scientists from many countries are cited more often than publications for which all the authors are from the same country.
8. **Ocean data centres serve multiple user communities with a wide array of products.** At the global level, the main type of data archived by ocean data centres is physical data, followed by biological and then chemical data. Less than half of ocean data centres provide data on pollutants or fisheries. The top three ocean data/information products provided by ocean data centres are metadata, geographic information system (GIS) products and raw data access. Ocean data centres provide three main services: data archival, data visualization and data quality control.
9. **Science-policy interactions can occur through many avenues.** Current ocean science policy and science diplomacy focuses on prioritizing scientific research areas and steering the production and use of knowledge to address societal needs and prepare nations for future challenges at national, regional and global scales.
10. **National inventories on ocean science capacity exist only in few countries**. The multidisciplinary nature of ocean science complicates efforts to establish reporting mechanisms to map ocean science capacities; the organization of national, academic, and federal capacities for marine research varies greatly.

Not all of these findings may be relevant to ABNJ/BBNJ. To foster ocean-based sustainable development, a baseline is needed of where and how existing ocean science capacities are being used to empower society, sustain the environment and generate knowledge to support ocean management and develop useful products, services, and employment, including in relation to ABNJ/BBNJ.

The GOSR offers a tool to help address this gap. It identifies and quantifies the key elements of ocean science at the national, regional and global scale, including workforce, infrastructure and publications. The second full edition of the GOSR is intended to be unveiled at the second United Nations Ocean Conference (tentatively, 1st half of 2020). The GOSR-II intends to extend its representativeness and effectiveness as the major global scaled periodical report in ocean science capacity area, including in relation to capacity needs and efforts to overcome those in relation to ABNJ/BBNJ.

4.6 Sharing of data and information

The success of the new International Agreement depends on access to relevant and timely data and information upon which to base management decisions. Open access to data can take place through already-existing databases of relevance to ABNJ, or it can imply access to data, information and samples collected by ongoing research projects. Increasing availability of open data as part of a new International Agreement on ABNJ would expand the collective knowledge and capacity to sustainably develop and manage ocean areas.[13]

Open access to data has three components: (1) access through already-existing databases that hold data of relevance to ABNJ; and (2) access to data being collected by ongoing national research projects, whether publicly funded or commercial in nature; and (3) access to samples collected in ABNJ.

The first component incudes databases that hold at least some data of relevance to ABNJ, such as the Ocean Biogeographic Data System (RB), Global Ocean Observing System (GOOS), World Register of Marine Species (WORMS), IODE, Global Biodiversity Information Facility (GBIF), GenBank and World Ocean Database. Because each database is different in content and format, improved access to ABNJ-relevant data would require creating

13 Bax, N., Harden-Davies, H., Thiele, T., Halpin, P., & Dunn, D. (2016). Open data: Enabling conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Nereus policy brief.

further interoperability that would allow a user to search for existing ABNJ-related data via a single and intuitive interface. This is a considerable undertaking requiring time and resources.[14]

The second component involves new data being collected via ongoing research projects. One example to draw upon is the Antarctic Treaty, which provides for freedom of scientific research but also requires that results of research are made freely available. Countries self-report on both plans for new research and the results of existing research.

The third component involves the sharing of samples collected in ABNJ. One proposed option is to create a marine sample bank for ABNJ to facilitate centralized access for the sharing of samples.

A central point for access to available open data could be facilitated through a clearing-house mechanism for the new International Agreement (see section 5). Additionally, capacity development will be required to help countries access and use data from the centralized repository and to benefit from the outcomes of marine scientific research.

Bottom Line:

Although there has been considerable growth of activities related to capacity building on ABNJ in recent years, overall, the number of activities on ABNJ capacity development remain relatively limited, with many of the capacity activities being part of broader training in ocean policy, governance, and science. Most of the efforts are focused on training at the individual level rather than at the institutional and societal levels. The funding amounts are generally limited as well. There is no evidence of coordination among the various efforts.

Going forward, it would be useful to bring together the various efforts involved in ABNJ capacity development to ascertain lessons learned, what worked well and didn't, and to discuss possible modalities for scaling up activities in order to achieve capacity building at the institutional and societal levels. Connecting ABNJ capacity development to EEZ capacity development will be essential as well, since wise management of EEZs is of top interest and concern to member States. Creating some form of coordination among existing capacity development efforts will also be important to achieve greater synergy and forward movement.

As well, with regard to scientific collaboration and the sharing of data and information, at present, these activities tend to be ad hoc and not coordinated across different institutions. A more integrated approach with coordination and information sharing would better benefit developing countries and SIDS in implementing the new Internaional Agreement. A central clearing-house of opportunities (see section 5) would be one way to provide for such coordination.

14 Bax, N., Harden-Davies, H., Thiele, T., Halpin, P., & Dunn, D. (2016). Open data: Enabling conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Nereus policy brief.

5. A POSSIBLE CLEARING-HOUSE MECHANISM FOR BBNJ: CONSIDERATIONS AND LESSONS FROM EXISTING CLEARING-HOUSES

5.1 Introduction

The term "clearinghouse" originally referred to a financial establishment where checks and bills were exchanged among member banks so that only the net balances need to be settled in cash. Today, its meaning has been extended to include any agency that brings together seekers and providers of goods, services or information, thus matching demand with supply.[15]

Many countries have proposed a clearing-house mechanism to assist in implementing a new International Agreement for marine biodiversity beyond national jurisdiction (BBNJ), including through sharing data and information related to BBNJ and to facilitate capacity development. While countries broadly agree on the importance of information sharing, many questions still remain about the format and content of a potential clearing-house mechanism and the role that it might play in facilitating capacity development. For example, how might a clearing-house mechanism help in coordinating capacity development efforts and highlighting existing opportunities? Can it act as a matchmaking facility for users and providers? And how could it help articulate country needs? What features and components are needed in a clearing-house to address those needs? This draft review provides a first step in looking at how existing clearing-houses approach aspects of these questions. It should be noted that this review is still in progress, and that further input to its content is welcomed.

The report of the Preparatory Committee outlines possible functions of a clearing-house mechanism, which are included in Box 6. This Policy Brief is focused primarily on the last bullet point, relating to capacity building and technology transfer.

This section specifically examines the use of existing clearing-houses established under international instruments to address the capacity development needs of their users. The UN clearing-houses reviewed here include the ***Convention on Biological Diversity's Clearing-house mechanism, the Access and Benefit-Sharing (ABS) Clearing-house, the Biosafety Clearing-house, UNFCCC's Capacity Development Portal, the Joint Clearing-house Mechanism for the Basel, Rotterdam and Stockholm Conventions, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), the Biodiversity and Ecosystem Services Network (BESNet), the Global Action Programme (GAP) Clearing-house and the Global Sustainable Consumption and Production (SCP) Clearinghouse.*** They were selected on the basis of their function, role and relevance to the potential capacity development role

Box 6. Report of the Preparatory Committee:

V. Clearing-house Mechanism

Possible functions of a clearing-house mechanism could include:

- Dissemination of information, data and knowledge resulting from research relating to marine genetic resources of areas beyond national jurisdiction, information on traditional knowledge associated with marine genetic resources of areas beyond national jurisdiction, as well as other relevant information related to marine genetic resources
- Dissemination of information relating to area-based management tools, including marine protected areas, such as scientific data, follow-up reports and related decisions taken by competent bodies
- Dissemination of information on environmental impact assessments, such as by providing a central repository for reports of environmental impact assessments, traditional knowledge, best environmental management practices and cumulative impacts
- Dissemination of information relating to capacity-building and transfer of marine technology, including facilitation of technical and scientific cooperation; information on research programmes, projects and initiatives; information on needs related to capacity-building and transfer of marine technology and available opportunities; and information on funding opportunities.

15 https://bch.cbd.int/help/topics/en/What_is_a_Clearing_House_Mechanism.html

of a BBNJ clearing-house. Regional and marine-specific databases were also considered but are not explicitly included in this review.

The next part of this section provides a table (Tabel 1) summarizing the main features of the reviewed clearing-house mechanisms. We then draw out the main capacity development aspects of existing clearing-houses that might be useful for developing the clearing-house mechanism for a new International Instrument on BBNJ, and put forward lessons learned based on preliminary expert interviews on the implementation of existing clearing-house mechanisms.

5.2 Examples of existing clearing-house mechanisms

All clearing-house mechanisms reviewed here aim to make relevant information available to users to enable them to better comply with the requirements of a specific convention or a protocol, or to undertake selected environmental management activities. Some clearing-houses also require that users provide updated information to the clearing-house. For example, Parties to the Nagoya Protocol to the Convention on Biological Diversity have an obligation to make relevant national information available to the Access and Benefit-Sharing (ABS) Clearing-house, as it is a key tool for monitoring the utilization of genetic resources along the value chain. Each of the CBD's clearing houses (including the central CBD Clearing-House Mechanism, the ABS Clearing-House and Biosafety Clearing-House) require countries to nominate a national focal point (NFP) who is responsible for national coordination and for making national information available on relevant topics. Participation in certain aspects of the CBD, ABS and BCH clearing-houses is a requirement for Parties under the relevant Convention or Protocol. However, participation in other clearing-houses is voluntary, such as the Joint Clearing-house Mechanism for the Basel, Rotterdam and Stockholm Conventions.

Most clearing-house mechanisms also allow provision and/or entry of specific categories of information by non-Parties, including by organizations, NGOs and the scientific community. Certain standards and pre-determined formats dictate the format in which information is provided, in order to make it compatible and searchable across the platform.

The development of many of the clearing-houses initially followed a centralized approach in which information providers sent information to the coordinating Secretariat (usually through emails or other means of correspondence) and the Secretariat disseminated this information through a central clearing-house mechanism. The primary benefit of this approach was that it facilitated the maintenance of the supporting infrastructure and tools, and ensured all information was presented in a consistent format through central oversight. However, disadvantages included complex processes for sharing information, significant delays in updating information, and a reduced feeling of 'ownership' of the information provided.

Advancement in information-sharing tools has resulted in many of the clearing-houses moving to a decentralized approach, which enables automatic information exchange between a distributed network of national nodes, and allows all stakeholders to access information as if it were located in a single repository of information. Data repositories are able to become nodes of the primary mechanism and control their own data locally, while agencies without the interest or capacity to maintain a separate node can make use of authorized users and online data entry portals to provide and update information in the central node which is maintained by the relevant Secretariat. Typically this involves the Secretariat developing a tool (such as an application programming interface, or API), which provides a system of tools and protocols that will facilitate interaction with other computer systems. In addition, the network can include supporting members, such as universities and organizations undertaking research relevant to BBNJ, which do not need to become stand-alone nodes.

With regard to capacity development, all clearing-house mechanisms reviewed here provide access to information on their specific topic of expertise, as well as information on existing capacity development initiatives by topic and/or by country. Some have a dedicated capacity development portal to facilitate implementation of capacity development activities, and to provide the capacity development section of the clearing-house mechanism its own identity. In addition to publications, many provide access to training workshops and courses (either organized by the Secretariat or other affiliated entities), online forums and workspaces, toolkits, webinars and targeted technical support on specific topics, and some of these tools and modalities used could be transferable to a possible BBNJ clearing-house mechanism. At least two clearing-houses (The Biosafety Clearing-House and the IPBES capacity development website) provide a way for Parties to register capacity development needs and priorities, and this could provide an interesting learning opportunity for the development of a BBNJ clearing-house mechanism. Many of the clearing-houses also provide access to a human network of experts, and may house a roster of experts on specific topics, as well as a way for users to pose technical questions and get them answered. See Table 1 for a summary of the clearing-house mechanisms reviewed for this Policy Brief.

In addition to the clearing-houses

Table 1. Summary of Features of Clearing-house Mechanisms from Various International Environmental Agreements

Clearing-house	Aims/goals	Components	Capacity development functions
The CBD Clearing-House Mechanism (CHM) *Convention on Biological Diversity (CBD Secretariat)* https://www.cbd.int/chm/	**Providing effective information** for implementation of the CBD and its Strategic Plan both globally and nationally	- Website (central node) and network of national clearing-houses - Partner institutions - 6 languages	- **Capacity development workshops** to help establish and maintain national clearing-house mechanisms. - **Toolkits** to assist development of national CHMs. - Ability to enter capacity building resources and information, including projects and opportunities, into a central database
The ABS Clearing-House (ABSCH) *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the CBD* *(CBD Secretariat)* http://absch.cbd.int	Facilitating the implementation of the Nagoya Protocol by: - **Enhancing legal certainty, clarity, and transparency** on procedures for access and for monitoring the utilization of genetic resources along the value chain, including through the internationally recognized certificate of compliance (IRCC). - **Making relevant information regarding ABS available** - **Connecting providers and users** of genetic resources and associated traditional knowledge.	- Website (central information hub) to enable, primarily Parties, but also non-Parties, indigenous people and local communities, international and non-governmental organizations, research institutions and businesses to make information available in an organized global repository - Ability to be interoperable with relevant national or partner databases or information systems - 6 languages	- The CBD Secretariat operates a **help desk to provide on-demand technical support,** answer questions and receive feedback on the use of the ABSCH. - **Outreach and engagement campaign** to provide personalized engagement, raise awareness and make all relevant information available. - **Training, workshops and webinars** to build capacity for the use of the ABSCH. - **Training website** to support trainings and workshops by providing users with a safe place where they can submit "practice" records and get familiarized with the functionalities. - **Information about relevant capacity development initiatives and capacity development material** - **Model Contractual Clauses, Codes of Conduct, Guidelines, Best Practices, Standards, Community Protocols and procedures, customary law.**
The Biosafety Clearing-House (BCH) *Cartagena Protocol on Biosafety to the CBD* *(CBD Secretariat)* http://bch.cbd.int/	**Facilitating the exchange of information** on Living Modified Organisms (LMOs) and assist the Parties to better comply with their obligations under the Cartagena Protocol on Biosafety.	- Website in the public domain (central node), where registered users can register, update, delete or correct information and participate in online activities. - Ability for national nodes to provide decentralized information - 6 languages	**Biosafety Capacity Development Portal** that includes: - Capacity Development **Online Forums** - Biosafety **Education Online Forums** - Capacity Development **Collaborative Network** - Restricted **workspaces** for specific groups - Ability to search for capacity development information, including **projects, opportunities, and academically-accredited biosafety courses.** - Ability to r**egister capacity development needs and priorities.**
UNFCCC Capacity Development Portal *UN Framework Convention on Climate Change (UNFCCC Secretariat)* http://unfccc.int/capacitydevelopment/activities.html	Providing an access point to a **database of capacity development activities in countries across the world**, activities whose focus is to better mitigate and adapt to climate change.	- Website that allows countries to submit information about capacity development activities relating to climate change adaptation and mitigation - Information is provided through a centralized portal	**An interactive tool that collects, compiles and disseminates country-driven information and allows the display of information from the submissions of the non-Party stakeholders** that support the capacity and ability of developing countries at the national and regional levels in accordance with UNFCCC provisions.

Clearing-house	Aims/goals	Components	Capacity development functions
Joint clearing-house mechanism (Basel, Rotterdam and Stockholm conventions) *BRSMEAS (BRSMEAS Secretariat)* http://www.brsmeas.org/?tabid=5382	Facilitating the **exchange of information a**nd expertise relevant for the Basel, Rotterdam and Stockholm conventions.	Website with the following components: -Information; community in the form of a global network of information providers; and tools to further disseminate information provided by the user community - Ability for stakeholders to provide decentralized information	The scope of information covered includes: - Scientific information; - Regulatory information **- Capacity development information** -Information on the status of implementation of the conventions
Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) capacity development functions *IPBES (IPBES Secretariat)* https://www.ipbes.net/capacity-and-knowledge-foundations	While technically not a clearing-house, capacity development under IPBES seeks to enable experts and institutions to contribute to and benefit from the science-policy interface processes under the Platform.	- Website with informational content - Information uploaded by Secretariat (not technically at a clearing-house stage yet)	Information about: **- Capacity development events** around the world **- Webinars** **- Capacity development task force** **- Capacity development projects looking for technical and financial support** **- Projects and activities** of interest to the IPBES community
Biodiversity and Ecosystem Services Network (BESNet) *Hosted by UNDP* http://www.besnet.world/	BESNet is a capacity development network that promotes dialogue between science, policy and practice for more effective management of biodiversity and ecosystems, contributing to long-term human well-being and sustainable development.	- Website providing for interaction between policymakers, science and knowledge holders and practitioners - Users interact through a central portal maintained by the administrators. New content can be suggested for review by moderators	- BES-NET **web portal to provide "one-stop shop" for policy-relevant information** and learning material, - BES-NET Trialogues for **multistakeholder dialogues** focusing on specific policy questions. **- Matchmaking facility** for jobs, internships, etc.
UNESCO Global Action Programme (GAP) Clearing-house *Hosted by UNESCO* https://en.unesco.org/gap-esd-clearinghouse/about	The GAP aims to generate and scale up concrete actions in Education for Sustainable Development.	- Website with informational content - Information uploaded by Secretariat (not technically at a clearing-house stage yet)	- An online clearing-house for stakeholders to **map information and knowledge,** identify **gaps,** develop **joint initiatives,** raise funds, and **build capacities**
Sustainable Consumption and Production (SCP) Clearinghouse *Hosted by UNEP* http://www.one-planetnetwork.org/about/clearing-house-glance	The Sustainable Consumption and Production (SCP) clearinghouse is the knowledge management platform of the One Planet Network, providing access to collective resources and expertise of actors in the public and private sector.	- Website with project and resources databases - Information provided by 10FYP partners and maintained centrally	- Consolidates knowledge on SCP and connects stakeholders to spark **collaborations** and scale up projects on the ground. **- Capacity development** is one of the database themes

reviewed above, it is important to note that the IOC of UNESCO is currently considering the development of a clearing-house mechanism relating to the transfer of marine technology. This clearing-house would operationalize the IOC Criteria and Guidelines on the Transfer of Marine Technology(CGTMT). A clearing-house mechanism (CHM) was proposed as a principal tool for implementing the CGTMT, by enabling access to expertise and sharing information, and by facilitating cooperation. This clearing-house would have implications not only for the implementation of a New International Agreement for BBNJ, but also for policy initiatives such as Sustainable Development Goal 14 and the United Nations Decade of Ocean Science for Sustainable Development 2021–2030. The recently established IOC Group of Experts on Capacity Development, which includes a task team on the implementation of a transfer of marine technology and clearing-house mechanism portal, is working on the specifics of this issue, and is due to report to the IOC Assembly in 2019.[16] More information on IOC activities can be found in the section on operationalizing the clearing-house for BBNJ.

5.3 What aspects of existing clearing-houses could be useful for a new International Agreement for BBNJ?

While the clearing-houses reviewed here address a variety of topics, they provide some preliminary ideas on how a clearing-house mechanism could facilitate capacity development. Many have envisioned that a clearing-house mechanism on marine biodiversity beyond national jurisdiction could provide a "one-stop shop" of information relevant to the implementation of the new International Agreement. **As such, a clearing-house mechanism for BBNJ would likely have functions relating to various aspects of the International Agreement that go beyond just capacity development. However, purely from the perspective of capacity development and technology transfer, the clearing-house might need to:**

- **Be needs driven** by providing an opportunity for countries, institutions and individuals to register their capacity development needs, both initially and on an ongoing basis as those needs evolve.
- **Provide an opportunity for capacity providers to respond to expressed needs** by facilitating dialogue and cooperation between those providing capacity development and those requiring it. Capacity providers can also consider updating their curriculum, where needed, to address ABNJ/BBNJ issues and capacity needs.
- **Provide a database of existing capacity development opportunities and materials** by location, thematic topic (e.g. legal and policy issues, area-based management, environmental impact assessment, marine genetic resources), tools (e.g. marine spatial planning, marine protected areas), type (e.g. learning materials, short courses, online training, webinars, advanced training, technical support, practicums, etc.), level (basic, advanced) and duration.
- **Be an information network** by providing users guided access to existing information and data related to all aspects of marine areas beyond national jurisdiction and their governance. This may require the clearing-house mechanism to incorporate decentralized "nodes" since the relevant information may reside at different institutions or databases around the world. Ideally, the central clearing-house website should be able to provide an interoperable search function that can query all the affiliated nodes.
- **Be a human network** by providing users access to ongoing technical support through networks of practitioners and facilitate dialogue between those working on similar issues. This component would aim to build a network of collaborators, including those working on different disciplines, with potential online workspace and/or forums for specific groups/topics.
- **Be written in language that is accessible**, and that is pitched at levels commensurate with the various users.
- **Facilitate scientific collaboration** between countries and institutions by providing access to a database of ongoing research related to ABNJ, including research cruises, research findings, as well as opportunities for collaboration on scientific research and publications; with particular attention to addressing the science-to-policy gap.
- **Provide for capacity development as part of non-monetary benefit sharing from use of marine genetic resources (MGRs).** This might include information on developments related to marine genetic resources from ABNJ, access to samples, publications and patents, and information about opportunities for collaboration in biodiscovery and commercialization of MGRs.
- **Enable capacity development** by providing information about scholarships and other funding opportunities.

Additional **challenges** that should be considered in developing such a database would be to:

- **Provide for compatibility with other data repositories**. One of the main challenges for a clearing-house mechanism on BBNJ would be to link in a searchable

16 http://ioc-cd.org/index.php?option=com_oe&task=viewDocumentRecord&docID=21510

form diverse data and information that exists in different institutions around the world in different formats, and to keep this information current. While this is a considerable task, it is not an insurmountable one. Experience already exists, for example at the CBD and BRSMEAS, on mechanisms that provide for compatibility across platforms and accommodate information from a diverse network of institutions.

- **Provide searchable access to resources in multiple languages,** for example through the use of key terms that are translated. This increases the complexity of the clearing-house significantly, but can broaden both the user base and resource base beyond the English-speaking limitations of many existing information exchange mechanisms. It would need to be decided whether languages are limited to the six official UN languages, or whether any languages relevant to capacity development would be included. The latter option would provide the most inclusive approach.
- **Encourage community engagement** to ensure relevance and maintenance of information. Experience also exists on how to keep the information in the clearing-house current and to ensure that a broad user community stays actively engaged. The capacity development functions of a clearing-house may be considerably simpler to implement than the data and information sharing ones, and as suggested in the lessons learned below, could be undertaken independently.

5.4 Lessons learned from implementing clearing-house mechanisms

The following lessons learned have been put together based on the review as well as additional expert input,[17] and it is anticipated that they would be transferable to the development of a clearing-house mechanism for a new International Instrument for BBNJ.

- **The use of a clearing-house to facilitate capacity development should have a low barrier of entry**. Access to information should be easy and should not require filling in forms, complicated logins and other bureaucratic work. Use of the clearing-house should have little or no learning curve and should be intuitive. Once people are connected to the clearing-house and are using it, they are in a better position to do any related paperwork. If the clearing-house is too complex to log into and to use, it will stay underutilized. A degree of informality is better than a formal bureaucratic process. Submission of data to the clearing-house is likely to require either creation of an authorised account and/or review of information by a moderation team before publication, but again, barriers to participation should be minimised.
- **A Secretariat or other similar entity is required to set up the clearing-house and to maintain its functions**. Quite a lot of work goes into developing the architecture and content of the clearing-house, and to maintaining it and keeping it up to date. Dedicated staff with appropriate expertise will be required to make the clearing-house effective. Additionally, there is the possibility of outsourcing some services or components to be supported by partners and networks rather than have them be undertaken solely by a Secretariat.
- **The capacity development functions of the clearing-house can be set up independently from its other functions.** For example, during the development of the CBD's Biosafety Clearing-House, its capacity development functions were initially established separately to its other functions. The reporting format for this information was established by the Secretariat, rather than going through the more time-consuming process of formal approval by the Parties to the Protocol, and valuable capacity development components were made available centrally by the Secretariat prior to establishing compatibility with other databases residing in different parts of the world. The types of capacity development databases that were set up consisted of: (i) expertise (e.g. people with different types of relevant expertise), (ii) informational materials, such as reports and publications, and (iii) information about opportunities, workshops and meetings. Much of this was initially drawn from existing sources, for example existing expert databases, and collaboration with other organisations. This allowed valuable feedback on the use and functionality of the capacity development elements to be promptly available, which encouraged rapid development.
- **In setting up capacity development functions, including expert databases, it is important to consider South-South capacity development**. It is easy for expert databases to be skewed towards mainly including experts from developed countries. Developing country expertise should also be well represented. For example, the SPREP Access and Benefit-Sharing Implementation project requires participating countries to nominate their own experts, thus creating a South-South regional roster of expertise.

17 Experts who have worked with the Biosafety Clearing-house, the SPREP Access and Benefit-Sharing Implementation project, the Caribbean Environment Programme Clearinghouse (now no longer operating), and the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) Clearing-house (now no longer operating) were interviewed for the lessons learned.

- **It is valuable for the clearing-house to be able to function in different languages**. When entering data, it should be possible to tick boxes relating to relevant languages, and to provide translation for basic information first (keywords, countries, specific topics, etc.). This will enable people to search for resources in languages supported by the clearing-house. Other tools, such as Google Translate, can then be used to access more detailed information or longer reports.
- **Crowdsourcing (e.g. enlisting a wide variety of users) for information should be enabled**. Allowing a variety of stakeholders to input information into the clearing-house about opportunities, new information, studies, workshops and so on will support faster and more comprehensive access to capacity development opportunities. Crowdsourcing will allow the clearing-house to build organically, though moderation by a Secretariat is likely needed. One of the biggest problems with clearing-houses is that the information in them quickly becomes out of date and is not maintained. People move to different jobs or organizations and are no longer interested in the clearing-house, and new staff are unfamiliar with how to operate or access it. Crowdsourcing and easy access will allow people to remove information that is no longer relevant, and to easily input new information that is up to date.
- **Consider use of social media, particularly for enhancing dialogue among people working on similar issues, and for providing quick technical assistance**. Social media, such as Facebook, LinkedIn, Quora and Reddit, have a low barrier of entry and many people around the world already use them to build capacity in a variety of areas. Interaction is quick and informal, and for this reason communication via social media is likely to be successful. However, information may not be reliable, and security issues need to be taken into consideration (for example, ensuring that experts providing advice really have the expertise to do so. This also raises liability issues).
- **A clearing-house can also provide access to other digital capacity development activities**, such as news articles, or online conferences, where people can post questions online about specific topics (e.g. a topic per week) and experts are available to answer the questions. Webinars and other web-based tools can also work, though these require people to log in at a specific time, and thus can be more time-intensive and formal than an online conference. Specialized databases, such as the Ocean Biogeographic Information System (OBIS) could also be integrated.

5.5 Operationalizing a clearing-house mechanism for BBNJ

There are several options on how a clearing-house mechanism might be operationalized. One would be to have the Secretariat for the new International Agreement operate the clearing-house. Another would be to use an existing entity such as the IOC, which is already working on related issues and operates several relevant databases. This option would be in keeping with calls by several delegations during the PrepCom process to use existing mechanisms instead of reinventing the wheel. Furthermore, the IOC has a mandate to develop a clearing-house on marine technology transfer, as detailed below. A third option would be a combination of a Secretariat and IOC, as well as other relevant nodes, which might include regional clearing-houses that serve regional needs, as well as participation of academia, research organizations, industry, NGOs and other entities that could contribute specialized information on topics of relevance.

The IOC CGTMT call for the establishment of a clearing-house mechanism for the transfer of marine technology, in order to provide interested users in Member States with direct and rapid access to relevant sources of information, practical experience and scientific and technical expertise in the transfer of marine technology, as well as to facilitate effective scientific, technical and financial co-operation to that end.

The IOC Criteria and Guidelines on Transfer of Marine Technology (CGTMT) call for the establishment of a clearing-house mechanism for the transfer of marine technology, in order to provide interested users in Member States with direct and rapid access to relevant sources of information, practical experience and scientific and technical expertise in the transfer of marine technology, as well as to facilitate effective scientific, technical and financial co-operation to that end. The IOC CGTMT is a non-binding tool for potential suppliers and institutions, essentially operational and project-oriented, complimentary to other mechanisms, and has the possibility of periodic review. [18]

A dedicated clearing-house mechanism was not established due primarily to resource constraints and lack of requests from developing nations to the IOC, however capacity development strategy and related activities contribute largely to the implementation of clearing-house mechanism functions defined under CGTMT.

In addition, the following list includes operational tools that have already been developed by IOC and can be used, or re-purposed to

18 http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=316&Itemid=100028

respond to TMT and CD (non-exclusive list) in the BBNJ context and aimed towards specific disciplines, issues, requirements and regions:

- Global Directory of Marine and Freshwater Professionals (OceanExpert): a directory of individuals and institutions dealing with the marine (and freshwater) environment (http://www.oceanexpert.net) (supported by IOC/IODE)
- IOC CD web site: provides listing and mailing list of IOC relevant training opportunities (http://www.ioc-cd.org) (see also below in 5) (currently not sustainably resourced)
- IODE Alumni directory: list of participants in IODE training courses (to be expanded to all IOC in 2017): (http://www.iode.org/alumni)
- OceanDataPractices e-repository: document repository of manuals and guides related to oceanographic data and information management. Contributions from IOC, SCOR, WMO, JCOMM, ICES, etc. (http://www.oceandatapractices.net)
- OceanTeacher e-Learning Platform: a training dedicated online platform with training resources (structured around courses) (http://www.oceanteacher.org)

Other IOC contributions to the TMT include *inter alia* :

- IOC Harmful Algal Blooms Programme (IOC-HAB) (http://hab.ioc-unesco.org/)
- Training-through-Research Programme (TTR)/At-Sea Training
- Ocean Research IOC Grants
- IOC-UNESCO Chairs
- IOC Regional Network of Training and Research Centres on Marine Science (http://iocwestpac.org/capacity development/49.html)
- Promoting the Awareness on Coastal Marine Environmental Changes and its Impact (PACMEC)
- Enhance the Capacity for Species Identification and Genetic Analysis on Marine
- Organisms in the Coral Reef Ecosystems in the Western Pacific (DRMREEF)
- ANCA – HAB Harmful Algal Blooms Programme (IOCARIBE-ANCA Harmful Algae in the Caribbean and Adjacent Regions) (http://iocaribe.ioc-unesco.org/)
- Global Sea Level Observing System (GLOSS) (http://www.gloss-sealevel.org/training)
- Data Buoy and Cooperation Panel (DBCP) (http://www.jcommops.org/dbcp/)
- Early Warning and Services: Tsunami (http://www.ioc-tsunami.org

With regards to operationalizing the CHM, the IOC is currently analysing ways and means to achieve that target including a) its architecture and infrastructure, b) types and models ranging from centralized, through hybrid to distributed regional nodes, c) partnerships with relevant organizations in different disciplines, development on existing expertise, structures and services, d) tailoring the CHM through a matrix approach by considering disciplines and issues vis à vis regional and sub-regional needs and requirements.

The IOC Assembly decided in June 2017 the establishment of an Expert Group on Capacity Development with the task to *inter alia* advise IOC Member States on the establishment of Clearing House Mechanism (CHM) as requested by the IOC CGTMT. The work of this group has started and a dedicated Task Force was established in 2018. Its main objective is to develop the scoping and needs assessment of the CHM (which should be developed, as much as possible, using existing information systems and sources), and develop a proof of concept to be demonstrated at IOC-XXX, and develop a proof of concept that could be possibly offered to the BBNJ process to support its specific needs.

In the process of operationalizing, it would also need to be decided whether the clearing-house mechanism would be centralized or de-centralized. In the latter case, national and, in particular, regional nodes could form a component of the clearing-house mechanism's architecture. In addition, supporting organizations, such as universities and research institutions, could contribute to form part of a distributed architecture.

Bottom Line:

This section provides a detailed look at the functioning and challenges faced by clearing-houses in 9 relevant international agreements. It summarizes what aspects of existing clearing-houses could be useful for a new International Agreement for BBNJ; what lessons can be learned from implementing clearing-house mechanisms; and details options for operationalizing a clearing-house-mechanism for the BBN International Agreement.

The section concludes that a clearing-house mechanism can provide a useful tool for facilitating information sharing about capacity development opportunities, provide access to online training materials, facilitate scientific collaboration, and build networks of practitioners working on similar issues. It can also provide a platform for countries, institutions and individuals to register their capacity development needs, both initially and on an ongoing basis, thus facilitating dialogue and cooperation between those providing capacity development and those requiring it.

Lessons learned from other clearing-house mechanisms indicate, however, that keeping the user community engaged and the information in the clearing-house currently are some of its biggest challenges. Additional challenges include providing compatibility with other existing data repositories and enabling access in multiple languages.

6. FINANCING CAPACITY DEVELOPMENT FOR BBNJ

6.1 Introduction

The success of capacity development depends on the availability of adequate, predictable and sustainable funding. Technology transfer, possibly facilitated through a clearinghouse mechanism, would contribute to capacity development, and has similar funding considerations. This section discusses potential options for funding from public, philanthropic and private sources, such as support from multilateral institutions and funds; private investment; contributions from a benefit-sharing mechanism (e.g., royalties from MGR exploration); contributions from fees related to EIAs; voluntary payments by oceans users; public-private partnerships; and other innovative funding mechanisms. The section will also discuss the potential establishment of a financial mechanism, including options such as a standalone mechanism, an existing mechanism such as the Global Environment Facility (GEF), as well as trust funds to finance capacity development, drawing from the financial arrangements from various environmental conventions.

In considering financing for capacity development for the new International Agreement, it may be useful to frame the need in the context of the goods and services provided by healthy ocean ecosystems, including for food security, climate moderation, carbon sequestration, oxygen production, transport, biodiversity, marine genetic resources, poverty reduction, tourism and cultural values. Each of these services, which are worth millions or trillions of dollars, but with values that extend well beyond their monetary worth, can be better secured with improved ocean governance.[19,20,21,22] Conversely the costs of poor management or governance are high and become more so over time. For example, a World Bank report demonstrated that poor fisheries management results in foregone revenues of roughly US$80 billion annually, which could be recovered if global fisheries were reformed significantly.[23] The Stern Report is another example of the economic costs of not addressing climate change.[24] The maintenance of a healthy ocean ecosystem and the services provided by it is also the key objective of Sustainable Development Goal 14. Thus, capacity development for BBNJ might seek to fulfill, where possible, the goals of not only a new International Instrument for BBNJ, but also those relating to SDG 14, all SDGs specifically for ocean dependent economies such as islands, and various regional and national initiatives, including as part of Regional Seas programmes, UN Convention on the Law of the Sea (UNCLOS), RFMOs and LME projects.[25] Seeking out opportunities where the policy goals of multiple programmes and initiatives align may provide new and expanded opportunities for financing. In addition to policy coherence, the mobilization of financial resources also requires a coordinated and holistic approach.[26]

Additionally, it is important that a financial needs assessment be conducted to assess the funding needs of countries and regions for effective implementation of a new International Agreement. Countries will have differing capacities and needs, and many may require preparatory assistance to allow them to become Parties to the Agreement. When developing a financial mechanism, Parties may need to consider whether assistance will be offered to developing country non-Parties in order to get them ready to join the Agreement. After such initial assistance, it is likely that implementation of the Agreement and the associated capacity development will require stable long-term funding to be effective.

6.2 Possible sources of financing

There are several financing options available that can be considered. Sources of financing can be broken down to three major categories. The first includes public sources of finance, both internationally/multilateral and national, which have traditionally been used to support

19 Rogers, A. D., Sumaila, U. R., Hussain, S. S., & Baulcomb, C. (2014). The high seas and us: Understanding the value of high-seas ecosystems. Global Ocean Commission. Retrieved from http://www.oceanunite.org/wp-content/uploads/2016/03/High-Seas-and-Us.FINAL_.FINAL_.high_.spreads.pdf

20 Global Ocean Commission. (2015). From decline to recovery: A rescue package for the global ocean. Oxford: GOC. Retrieved from http://www.some.ox.ac.uk/wp-content/uploads/2016/03/GOC_report_2015.July_2.pdf

21 Hudson and Glemarec (2012) Catalysing ocean finance Volume I Transforming markets to restore and protect the global ocean. United Nations Development Programme: Global Environmental Facility.

22 Hoegh-Guldberg, O. (2015). Reviving the ocean economy: The case for action - 2015. Gland, Switzerland: WWF Internationa

23 World Bank (2017) The Sunken Billions Revisited: Progress and Challenges in Global Marine Fisheries. World Bank, Washington DC

24 https://www.cambridge.org/core/books/the-economics-of-climate-change/A1E0BBF2F0ED8E2E4142A9C878052204

25 Thiele, T., & Gerber, L. R. (2017). Innovative financing for the High Seas. Aquatic Conservation: Marine and Freshwater Ecosystems, 27(S1), 89-99.

26 Akhtar-Schuster, M., Thomas, R. J., Stringer, L. C., Chasek, P., & Seely, M. (2011). Improving the enabling environment to combat land degradation: Institutional, financial, legal and science-policy challenges and solutions. Land Degradation & Development, 22(2), 299-312.

improved ocean governance and management, including area-based management and other similar activities. The second category includes financing from philanthropic sources, including foundations, which have a long history of supporting specific projects relating to ocean and coastal management, including on topics relating to ABNJ. The third and final category consists of innovative financing sources, which are new funding sources and mechanisms for ocean management and particularly ABNJ.[27] Innovative financing describes "a set of financial solutions that create scalable and effective ways of channeling private money, in particular from global financial markets towards solving pressing global problems."[28]

Options in the first category of **public sources of financing** include:

- **Funding from multilateral organizations and funds**, including the Global Environment Facility (GEF), and others that finance and work on improved ocean governance and associated capacity development, such as United Nations Development Programme (UNDP), the World Bank Group, and regional development banks. In addition, many other United Nations and other intergovernmental agencies support capacity development either as part of their core funding, including in-kind funding, as well as through funding that has been raised from other sources. Such organizations, which are not funding agencies *per se*, include the United Nations Environment Programme (UNEP), the United Nations Food and Agriculture Organization (FAO), Intergovernmental Oceanographic Commission of UNESCO and IUCN. Projects supported by these organizations could include activities that help implement a new International Agreement on BBNJ.
- **Funding from national governments**, including in the form of official development assistance (ODA) to advance participation of specific nations or regions in integrated ocean planning and governance activities that bring benefits to national EEZs, economic development and conservation of ABNJ.

Options in the second category include **funding from philanthropic sources**, including foundations such as the Nippon Foundation, Sasakawa Peace Foundation, Pew Environment Fund, the Rockefeller Foundation and others to undertake specific ocean governance and management activities. National environmental and fisheries foundations in developing countries have also funded work relevant to ABNJ, for example focusing on legal support and awareness-raising relating to fishers and IUU fishing in EEZs and ABNJ.

Options in the third category of **innovative financing sources, which consider private investment and public-private partnerships,** include the following activities, most of which have not yet been undertaken in relation to ABNJ:

- **Financing through marine conservation**, such as visitor entry fees to marine protected areas. This could be particularly applicable to any MPAs that straddle national waters and ABNJ, and could help finance integrated area-based management and associated capacity development.
- **Financing generated from fees related to environmental impact assessments (EIAs)** undertaken as part of a new International Instrument for BBNJ. This type of financing has been suggested in country submissions to the BBNJ PrepCom. This financing might help develop capacity of developing countries to undertake EIAs or go into funding other priority activities related to governance of ABNJ and associated capacity development.
- **Financing relating to both non-monetary and monetary benefit-sharing from the exploration of marine genetic resources (MGRs).** While monetary benefit-sharing may take some time to materialize, it is anticipated that non-monetary benefit-sharing could be immediate and could build the capacity of developing countries to participate in the commercialization of marine genetic resources and related scientific research. Monetary benefit-sharing, once available, could finance further capacity development and technology transfer. This type of financing has also been proposed in submissions to the BBNJ PrepCom.
- **Debt-for-nature swaps or other debt finance**, which mobilize private impact investor resources to swap out high-interest-bearing sovereign debt in exchange for governmental commitments to conservation. This option might in particular finance ocean governance reform and associated capacity development for species and ecosystems crossing jurisdictional boundaries. For example, a country or a group of countries collectively could use this mechanism to finance area-based management, including a network of MPAs that protect both within EEZs and beyond ABNJ.
- **Blue bonds**, an adaptation of land-based green bond instruments, which are issued to raise capital and investment for existing and new projects with environ-

27 World Bank and United Nations Department of Economic and Social Affairs (2017). The Potential of the Blue Economy : Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries. World Bank, Washington, DC. © World Bank
28 Madsbjerg, S. (2016). Innovative finance is key to affording the global goals. Rockefeller Foundation blog, 23 September.

mental benefits. A characteristic of innovative finance is the requirement for generating a return on investment and demonstrating sustainability benefits. Innovative finance such as blue bonds might be used to finance components of a sustainable blue economy and associated capacity development that have direct bearing on conservation and management of ABNJ, for example in relation to transitioning to more sustainable fisheries management, shipping or marine biotechnology industries.

- **Payment for ecosystem services** to finance area-based management, including MPAs, and associated capacity development in key ocean areas beyond national jurisdiction. These payments might be raised from direct beneficiaries of ecosystem services through mechanisms such voluntary contributions or taxes/fees. The contributors might be industries such as tourism, fishing, shipping, energy production and extractive industries.
- **Public–private partnerships to develop ocean infrastructure, data collection and capacity for their use,** such as remote sensing technologies for monitoring, observation and enforcement, and scientific sampling (including genetic data) that can be used for both industrial and conservation purposes. Such projects could help bring additional funders and reduce overall funding cost through economies of scale. They could also generate open-access data of ABNJ to benefit conservation, management, environmental impact assessment and sustainable industrial activities.
- **The development of specialized funds analogous to Water Funds**. The process includes the identification of ecosystem services that will be the structural basis for the fund. The creation of the Fund would include the employment of natural or green infrastructure necessary for halting the water problems experienced downstream. Water funds work when water users pay into the funds in exchange for the product they receive: fresh, clean water. The funds, in turn, pay for the conservation of forest, watershed and other natural ecosystems along rivers, streams and lakes, to ensure that safe drinking water flows out of users' faucets every time they turn on the tap.
- **Financing from integrating ABNJ into carbon markets**. Protection of ABNJ can lead to climate change mitigation by maintaining the "global conveyor belt" and enhancing the biological pump that transports carbon from the atmosphere into the deep ocean water masses. Increased knowledge and understanding of this mechanism can perhaps see carbon markets developing around it similar to REDD+ initiatives under the UNFCCC.

6.3 Examples of public financing mechanisms and their operation

It is likely that capacity development and technology transfer under a new International Agreement for BBNJ would need to rely on a range of different types of financing from both public and private sources, as indicated above. Regardless of the actual type of finance, the new International Agreement would also require a financial mechanism, a body and/or a process to facilitate the provision of funding for developing countries in the long term in order to build their capacity to successfully implement and comply with the provisions of the Agreement.

Whatever institutional architecture is put in place, it would need to be able to ensure a well-functioning financial mechanism acceptable to the Parties to the International Agreement, and it would likely be tasked with the raising and disbursement of revenue and provision of oversight and monitoring of its use.[29] The financial mechanism would also need to ensure that funding is available for priority actions by developing countries to implement the new International Agreement, including as directed by decisions of the Conference of the Parties (COP), and be able to periodically report back to the COP on the use of funds. Given the need for a diverse funding base, the financial mechanism should also be able to create an environment for more innovative financing and mobilization of resources.

This section reviews the financial mechanisms and arrangements of the following existing 12 international agreements: **UN Framework Convention on Climate Change (UNFCCC); Convention on Biological Diversity (CBD); United Nations Convention to Combat Desertification (UNCCD); The Montreal Protocol on Substances that Deplete the Ozone Layer; CITES; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention); FAO International Treaty on Plant Genetic Resources; United Nations Convention on the Law of the Sea (UNCLOS); Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks; Agreement relating to**

29 Gomez-Echeverri, L. and Müller, B. (2009) The Financial Mechanism of the UNFCCC – A brief history. European Capacity Development Initiative (ecbi) policy brief. Retrieved from http://www.oxfordclimatepolicy.org/publications/documents/ecbiBrief-FM-History.pdf

the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982; Convention on the Conservation of Migratory Species of Wild Animals. See Table 2.

As evident in Table 2, various international agreements have diverse financial arrangements, which may in some cases, reflect differences between the mandates and history of each instrument.[30] The financial mechanism can be operated by one or more international entities, which take direction from the COP and are accountable to it. The COP would decide on the policies, programme priorities and eligibility criteria for funding. This is the case, for example with the Rio Conventions: UNFCCC, CBD and UNCCD. In addition, special funds can be established to provide funding for specific purposes or recipients. The UNFCCC, for example, has two operating entities: the Global Environment Facility (GEF) and Green Climate Fund, and the UNFCCC Parties have established two special funds: the Special Climate Change Fund (SDDF), the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF). Other environmental conventions have opted to not have a separate entity operate the financial mechanism, but to instead rely on a trust fund or special funds to support operations. For example, both the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Basel Convention have two trust funds, one to manage the operations of the Secretariat and the other to fund capacity development and activities aimed at implementing the Convention by developing country Parties. The Ramsar Convention and the World Heritage Convention have funds to support implementation activities by countries. The contributions to these funds can be either mandatory (e.g. the CITES Trust Fund and the World Heritage Fund) or voluntary (Basel Convention Trust Fund and the Ramsar Small Grants Fund). Where mandatory, the contributions are often based on the United Nations scale of assessment. In addition, some conventions have established through voluntary donations specific funds to finance activities by a regional group of countries (for example the Ramsar Convention has several funds for activities in specific regions voluntarily financed by a developed country). Of interest is also the World Heritage Convention's Rapid Response Facility, which allows the quick and flexible protection of World Heritage Sites in a time of crisis. Also of interest for the International Agreement is the Benefit-Sharing Fund of the FAO International Treaty on Plant Genetic Resources. This grant fund, financed by developed countries, allows developing countries to propose and undertake priority actions towards implementing the Treaty.

The Parties to the new International Agreement thus have a number of choices on how to provide financial assistance to developing country Parties, keeping in mind that without such assistance it may be impossible for those countries to comply with the Agreement. It is also important to consider that the financial mechanism needs to be able to safeguard a reliable, regular and continuous supply of financial resources to ensure the overall effectiveness of the Agreement.

As a general approach, Parties to an international treaty or instrument can either establish a separate financial mechanism or leave the management of finances to the Secretariat. Where a separate financial mechanism is established, it could either:

- **Be an entirely new entity** established for the purposes of the new International Agreement. Some examples of a new entity are the Green Climate Fund of the UNFCCC and the Multilateral Fund for the Implementation of the Montreal Protocol. One advantage of this approach is that the specific mechanism will be tailored for the needs of the Agreement.
- **Utilize an existing body or structure**, such as the Global Environment Facility (GEF), which already serves as a financial mechanism to five conventions, which are Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), Stockholm Convention on Persistent Organic Pollutants (POPs), UN Convention to Combat Desertification (UNCCD), and Minamata Convention on Mercury. The conventions for which the GEF serve as financial mechanism provide broad strategic guidance to the two governing bodies of the GEF: the GEF Council and the GEF Assembly. The GEF Council converts this broad guidance into operational criteria (guidelines) for GEF projects. In the case of the new International Agreement for BBNJ, this type of arrangement might be the simples option and provide for coordination and harmonization with other activities for management and protection of ocean and coastal areas, given that the GEF already operates the International Waters, Biodiversity and Climate Change focal area portfolios of projects.

It should be noted that the UNFCCC has embraced both of these approaches by designating a new entity (The Green Climate Fund) and an existing entity (the GEF) to act as the financial mechanism for the Convention. The UNFCCC Standing Committee on Finance assists the COP in financial issues and forms an integral part of the financing architecture.

In addition, the financial mechanism

30 Matz, N. (2002) Environmental Financing: Function and coherence of financial mechanisms in international environmental agreements. In: 1.A. Frowein and R.Wolfrum (eds.), Max Planck Yearbook of United Nations Law, Vol 6, 2002, 473-534.

Table 2. Examples of Financial Mechanisms of International Environmental Agreements (in US dollars)

Convention	Financial mechanism operating entity or entities	Special funds	Administration	Other resources
UN Framework Convention on Climate Change (UNFCCC)	- **Global Environment Facility (GEF)** *(GEF 7 allocation for climate change is $876 million)*[i] - **Green Climate Fund (GCF)** *(Total value of GCF is $12.6 billion)*[ii]	Managed by the GEF: -**Special Climate Change Fund** (SCCF) *($120.60 million as of April 6, 2018)*[iii] - **Least Developed Countries Fund (LDCF)** *($687.27 million as of April 6, 2018)*[iv] Established under the Kyoto Protocol: - **Adaptation Fund (AF)** *(has committed $476 million since 2010 to climate adaptation and resilience activities)*[v] Established under the Paris Agreement: - **Capacity development Initiative for Transparency (CBIT)**, managed by the GEF. *($43.18 million as of April 6, 2018)*[vi]	- **Financial mechanism accountable to the Conference of the Parties (COP),** which decides on its policies, programme priorities and eligibility criteria for funding - **Standing Committee on Finance** assists COP	- **Climate Finance Data Portal** - a gateway to information on activities funded in developing countries to implement UNFCCC - **NEEDS for Climate Change Project** provides for assessment of financial needs to implement mitigation and adaption measures - **Project to review and analyze investment and financial flows** relevant to the development of an effective and appropriate international response to climate change
Convention on Biological Diversity (CBD)	- **GEF** *(GEF 7 allocation for biodiversity is $1412 million)*[vii]	Managed by the GEF: - **Nagoya Protocol Implementation Fund8** *($4.53 million as of April 6, 2018)*[ix]	- Relationship between the COP and GEF Council defined by MoU - **COP** provides guidance to the financial mechanism - **Periodic review** of effectiveness	
United Nations Convention to Combat Desertification (UNCCD)	- **GEF** - **Global Mechanism** *(GEF 7 allocation for land degradation is $519 million)*[x]	- **Land Degradation Neutrality Fund** (in development) – designed to mobilize funds from impact investors	- Formal relationship still being defined. The GEF became the financial mechanism for UNCCD in 2010. The funds allocated by the GEF support activities that address the issue of desertification and deforestation.	- **Finance Info Kit** to deliver up-to-date information about financing sources, mechanisms and funds relevant for sustainable land management (SLM) and tips on how to access them
The Montreal Protocol on Substances that Deplete the Ozone Layer	- **The Multilateral Fund for the Implementation of the Montreal Protocol** *(contributions to the fund totaled over $3.7 billion in Nov 2017)*[xi]		- The Multilateral Fund is managed by an Executive Committee with equal membership from developed and developing countries - Projects and activities supported by the Fund are implemented by four international implementing agencies. - The Multilateral fund is replenished from contributions from Parties based on the United Nations scale of assessment - The Multilateral Fund also receives voluntary contributions	

Convention	Financial mechanism operating entity or entities	Special funds	Administration	Other resources
CITES	No specific operating entity for financial mechanism	- **CITES Trust fund** for administrative costs *(Assessed contributions for the year 2018 $6,184,937 million)* [xii] - **CITES External Trust Fund** funds other activities, such as capacity development, science related activities etc. *(Total contributions $18,407,215 million as of Feb 2018)*[xiii]	- CITES Trust Fund replenished from contributions from Parties based on the United Nations scale of assessment	
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	No specific operating entity for financial mechanism	- **Trust Fund** to provide financial support for the ordinary expenditure of the Secretariat of the Basel Convention *(Assessed contributions for 2018: $4,826,060 million)*[xiv] - **Technical Cooperation Trust Fund** to assist developing countries and other countries in need of technical assistance in the implementation of the Basel Convention *($216,322 collected in for 2017 and prior years)*[xv]	- Trust funds replenished from voluntary contributions	
Ramsar Convention on Wetlands of International Importance	No specific operating entity for financial mechanism	- **The Small Grants Fund** supports projects from around the world, both through direct assistance and through seeking donors for additional proposals. *($8.5 million in assistance since 1990)*[xvi] - Nagao Wetland Fund (NWF) is intended to help local governments, researchers, non-governmental organizations and local communities of developing countries in the Asia and Oceania regions to implement the Ramsar Convention. *(4 projects of up to $18,000 each are supported each year)*[xvii]	- The Small Grants Fund relies on voluntary contributions from governments and individuals - The Nagao Wetland Fund is financed by the Nagao Natural Environment Foundation in Japan and administered by the Secretariat	- **The Wetland for the Future initiative,** funded by the United States State Department and Fish and Wildlife Services, supports small capacity development projects in Latin America. - **The Swiss Grant for Africa** assists the Secretariat's Africa regional team in facilitating specific activities in that region
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	No specific operating entity for financial mechanism	- **World Heritage Fund** to support activities by Parties in need of international assistance *(Assessed compulsory contributions for 2018: $1,990,460 million)*[xviii]	- World Heritage Fund replenished from compulsory contributions from Parties. It also receives income from sale of World Heritage Publications and **funds-in-trust** that are voluntarily donated by countries for a specific purpose	- **Rapid Response Facility** – a small grants programme jointly operated by the UNESCO World Heritage Centre, the United Nations Foundation and Fauna & Flora International to quickly and flexibly protect World Heritage Sites in a time of crisis. (The fund has distributed US$1 million in funds)[19]

Convention	Financial mechanism operating entity or entities	Special funds	Administration	Other resources
FAO International Treaty on Plant Genetic Resources	No specific operating entity for financial mechanism	- **Benefit-sharing Fund** which provides grants relevant to food security, climate change adaptation, resilient farming and other Treaty priorities *(The Fund is committed to eventually raising $116 million)*[xx]	- The Benefit-Sharing Fund is financed through **Leading the Field Initiative,** which requires multi-year investments from governments, foundations, corporations, philanthropists and interested others.	
United Nations Convention on the Law of the Sea (UNCLOS)	No specific operating entity for financial mechanism	- **Voluntary trust funds** relating to the Commission on the Limits of the Continental Shelf, the Informal Consultative Process on Oceans and Law of the Sea and the BBNJ conference		- The Hamilton Shirley Amerasinghe Fellowship, and the United Nations – Nippon Foundation of Japan Fellowship and Alumni Programme (not confined to UNCLOS) - Nippon Foundation Training Programme to Reinforce Capacity in the Context of the Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction.
Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	No specific operating entity for financial mechanism	- **The Assistance Fund** to provide financial assistance to developing States Parties to the Agreement in order to assist them in the implementation of the Agreement *(The Assistance Fund is currently depleted)*	- The Assistance Fund relies on voluntary contributions. It is administered by the FAO, in accordance with an MoU with the Secretariat (UNDOALOS).	
Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982	- **The Finance Committee** oversees the financing and financial management of the Authority. Consists of 15 members elected by the Assembly.	- **The Endowment Fund** promotes and encourages the conduct of collaborative marine scientific research in the international seabed area for the benefit of humankind		

Convention	Financial mechanism operating entity or entities	Special funds	Administration	Other resources
Convention on the Conservation of Migratory Species of Wild Animals		- **CMS Trust Fund** to support work of Secretariat and functioning of CMS. Both assessed and voluntary contributions. *($2,458,937 total budget available for 2016)*[xi]	Standing Committee monitors the budget	- **CMS Small Grants fund** for Governmental institutions, non-governmental organizations, communities, conservationists and researchers engaged in the conservation of migratory species. Relies on voluntary contributions

i https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Resource%20Allocation%20and%20Targets%20-%20GEF_R.7_22.pdf
ii https://www.greenclimate.fund/what-we-do/portfolio-dashboard
iii http://fiftrustee.worldbank.org/Pages/sccf.aspx
iv http://fiftrustee.worldbank.org/Pages/ldcf.aspx
v https://www.adaptation-fund.org
vi http://fiftrustee.worldbank.org/Pages/cbit.aspx
vii https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Resource%20Allocation%20and%20Targets%20-%20GEF_R.7_22.pdf
viii The Nagoya Protocol Implementation Fund is being concluded
ix http://fiftrustee.worldbank.org/Pages/npif.aspx
x https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Resource%20Allocation%20and%20Targets%20-%20GEF_R.7_22.pdf
xi http://www.multilateralfund.org/default.aspx
xii https://www.cites.org/sites/default/files/eng/disc/funds/ct_en.pdf
xiii https://cites.org/sites/default/files/eng/disc/funds/status_of_external_contributions_to_the_CITES_External_Trust_Fund.pdf
xiv http://www.basel.int/TheConvention/FinanceBudget/TrustFund(BC)/ContributionsStatus/2018/tabid/6254/Default.aspx
xv http://www.basel.int/TheConvention/FinanceBudget/TechnicalCooperationTrustFund(BD)/ContributionsStatus/2018/tabid/6255/Default.aspx
xvi https://www.ramsar.org/activity/small-grants-fund
xvii https://www.ramsar.org/activities/the-nagao-wetland-fund
xviii https://whc.unesco.org/en/world-heritage-fund/
xix http://www.rapid-response.org/
xx http://www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/resource-mobilization/en/
xxi https://www.cms.int/sites/default/files/document/cms_stc45_doc-10-2_expenditure-report-cms-aug16_e.pdf

for a new International Agreement could incorporate the following:

- **A trust fund or several trust funds** for ocean conservation and management, and associated capacity development, which might hold money collected from diverse sources, such as contributions from governments, regional trust funds, private sector and others, EIA fees, MGR royalties, payment for ecosystem services contributions, and so on. The option to develop a trust fund has been raised by several country submissions to the BBNJ PrepCom.
- **A private sector coalition or fund** that could aim to help ocean conservation by creating new opportunities for return-seeking private investment in conservation. The Coalition for Private Investment in Conservation (CPIC) launched during the 2016 IUCN World Conservation Congress in Hawaii might provide one model for such a coalition.
- **Impact investment fund** designed to mobilize funds from impact investors, who wish to make environmentally and socially responsible investment choices, based on the model of the UNCCD Land Degradation Neutrality Fund.
- **A matchmaking facility** that creates linkages between investors and those needing funding. In this regard, the Clearinghouse Mechanism might provide a helpful platform to facilitate such interaction.
- **A national fund for fisheries and biodiversity beyond national jurisdiction** to enable developing countries to proactively and in a timely manner enhance their capacites and develop priority initiatives.
- **Capacity building to support the capacity to plan for, access, manage and monitor** various types of financial support, similar to the Green Climate Fund Readiness Programme.

Finally, there have been suggestions to create an **Ocean Bank for Sustainability and Development**. Such a bank could service the financing of a number of ocean-related commitments, both within and beyond national jurisdiction, including SDG 14, thus creating policy coherence in ocean governance. A dedicated ocean finance institution could provide loan guarantees and equity and debt instruments as well as structure transactions and partner new investors.

Regardless of the financial mechanism chosen, it is important that the processes to access funding not be made too prohibitive, and that the bureaucracy involved be kept to a minimum. Especially for Small Island Developing States and least developed countries there should be greater flexibility and processes tailored made to individual national circumstances.

Bottom Line:

For capacity development efforts to be effective, sustained and steady financing will be essential. The Law of the Sea Convention, adopted early on, in 1982, does not have a standing financial mechanism, in contrast to the UNCED related conventions that were adopted in 1992 or later (i.e., UNFCCC, CBD, and UNCCD), all of which have a standing financing mechanism. The LOS Convention has relied mainly on voluntary contributions to voluntary trust funds and to the Assistance Fund, which have not provided sufficient funding for the implementation of the Convention.

While funds from philanthropic sources have been mobilized to support specific capacity development activities in support of the LOS Convention, the extensive work that will need to be done under a new BBNJ International Agreement will require a sustained public finance mechanism to finance implementation of the Agreement, including needed capacity development activities at global, regional, and national levels. Deliberations on the appropriate type of financing mechanism to support the future BBNJ International Agreement can be informed both by the goals and architecture that will characterize the agreement as well as by lessons that can be learned from the experiences of other international agreements.

7. POSSIBLE MODALITIES AND APPROACHES FOR LINKING GLOBAL, REGIONAL, AND NATIONAL PROCESSES ON BBNJ

This section examines the institutional landscape and rich tapestry of institutions undertaking capacity development in different regions and at the national level. What institutions exist at the regional and national levels and how might collaboration be forged in each region to address capacity development and technology transfer needs of the new International Agreement? Additionally, how might cross-regional and international collaboration at the global level help individual regions and governments better deliver their obligations? Successful models of regional collaboration in capacity development will be examined for potential transfer to and adaptation by other regions.

As we have discussed in the preceding sections, to be effective, capacity development needs to go beyond training courses to address the long-term needs of countries, at the individual, organizational, and enabling environment levels. What are some of the methods for achieving this, including possibly regional centres of excellence; networks of universities, learning centers and regional institutions; development of curricula and courses related to ABNJ as a collaborative exercise among relevant universities (Regional universities, such as University of South Pacific and University of West Indies technical networks of professionals; opportunities for continued skill-development; degrees and certificates; industry participation; and global scholarship funds?

7.1 Regional contexts, needs, and modalities for capacity development

Each region has its own unique environmental, institutional and capacity context, which often includes an established institutional structure for regional cooperation on managing the marine environment and its resources. In this context, many regions often have regional policies, programmes and initiatives that bring together countries to undertake area-based management, including creating marine protected areas, and to manage fisheries resources. Many of these existing institutions already engage in capacity development, particularly in training on specific topics that are consistent with their mandates.

In general terms, many regions may have some or all of the following in place:

- Regional Seas Programmes
- Regional Fishery Bodies, including Regional Fisheries Management Organizations (RFMOs)
- Regional Commissions
- Regional universities (e.g. University of South Pacific, University of West Indies)
- Large Marine Ecosystem Projects
- Other regional collaborative projects on area-based management or fisheries
- Regional ocean policies or strategies

These regional structures provide opportunities for capacity development on a regional scale towards improved management both of national waters and of ABNJ. For example, the Cartagena Convention on the protection of the Marine Environment of The Wider Caribbean region is one such regional agreement that facilitates cross country cooperation in the management and use of marine resources and the protection of those resources from land-based sources of pollution. There are already existing regional mechanism in place, which, though in need of capacity enhancement, present examples of the kind of regional cooperation necessary for the engagement of the new International Agreement.

Table 3 below provides examples of the institutions and collaborative projects that exist in the Pacific, Asian, African and Latin America and Caribbean Regions. The listing is not meant to be comprehensive and suggested additions to it are welcomed.

Given the number of regional organizations and initiatives, coordination, collaboration and the exchange of data and information remain an issue in most regions. However, good examples of coordination mechanisms also exist on the regional level. For example, the Pacific Islands Forum provides a source of coordination and collaboration within the Pacific region. Collaboration between fisheries and environmental bodies has also been undertaken through specific projects. For example, the FAO/UNEP project in the African region on Securing the Foundations for Fish Food Security in a Changing Ocean is a collaboration with Regional Fisheries Bodies and Regional Seas Programmes to

Table 3. Examples of Regional Institutions and Collaborative Projects in the Pacific, Asia, Africa, and Latin America and the Caribbean

Pacific	Asia	Africa	Latin America and Caribbean
- Pacific Islands Forum Secretariat (PIFS) (also hosting the Pacific Ocean Commissioners Office) - Pacific Islands Forum Fisheries Agency (FFA) - South Pacific Regional Fisheries Management Organisation (SPRFMO) - Secretariat of the Pacific Regional Environment Programme (SPREP) - Secretariat of the Pacific Community (SPC) - Western and Central Pacific Fisheries Commission (WCPFC) - CROP: The Council of Regional Organisations of the Pacific - Economic and Social Commission for Asia and the Pacific (ESCAP) - University of South Pacific - South Pacific Tourism Organization (SPTO) - Pacific Ocean Alliance - Framework for Pacific Oceanscape (as a collaborative policy instrument) - The Parties to the Nauru Agreement (PNA) Office -Pacific Catalyst (a consortium constituted by the University of the South Pacific, Duke University, University of Wollongong, Environmental Defense Fund (EDF and iTuna Intel) -Micronesian Challenge	- Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) - South Asia Cooperative Environment Programme (SACEP) - Northwest Pacific Action Plan (NOWPAP) - Coordinating Body on the Seas of East Asia (COBSEA) - Regional Organization for the Protection of the Marine Environment (ROPME) - Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) - Western and Central Pacific Fisheries Commission (WCPFC) - Indian Ocean Tuna Commission (IOTC) - Bay of Bengal Large Marine Ecosystem Project - IOC Sub-Commission for the Western Pacific (WESTPAC) - Economic and Social Commission for Asia and the Pacific (ESCAP) - Economic and Social Commission for Western Asia (ESCWA) - Coral Triangle Initiative (CTI) - Sulu Sulawesi Marine Ecoregion - The Southeast Asian Fisheries Development Center (SEAFDEC) - Bay of Bengal Programme – Intergovernmental Organisation (BOBP-IGO) - ASEAN Working Group on Coastal and Marine Environment (AWGCME) - WorldFish Center - Regional and National WWF (Marine fisheries section) - Regional and National IUCN (Marine Programme, focuses on MPAs and marine biodiversity, Red List,...)	- Secretariat for the Nairobi Convention (East African Regional Seas Programme) - West and Central Africa Regional Seas Programme (WACAF) - Secretariat for the Convention for the Cooperation on the Protection, Management and Development of the Marine Environment and the coastal zones of the Atlantic Coast of the West, Central and Southern Africa Region (Abidjan Convention) - Secretariat of the Barcelona Convention - Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) - South East Atlantic Fisheries Organisation (SEAFO) - South Indian Ocean Fisheries Agreement (SIOFA) - Southwest Indian Ocean Fisheries Commission (SWIOFC) - Fishery Committee for the Eastern Central Atlantic (CECAF) - Inter-American Tropical Tuna Commission (IATTC) - Agulhas and Somali Current Large Marine Ecosystem Project (ASCLME) - Canary Current LME Project - Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT) - Benguela Current Commission - Guinea Current LME Project - New Partnership for Africa's Development (NEPAD) - Economic Commission for Africa - Western Indian Ocean Marine Science Association (WIOMSA) - Africa Integrated Maritime Strategy 2050 (as a collaborative policy instrument)	- UNEP Caribbean Regional Environment Programme - Comisión Permanente del Pacífico Sur (CPPS) - North-East Pacific Regional Seas Programme (NEP) - Caribbean Regional Fisheries Mechanism - Inter-American Tropical Tuna Commission (IATTC) - Caribbean Community (CARICOM) - Economic Commission for Latin America and the Caribbean (ECLAC) - Caribbean Large Marine Ecosystem Project - Caribbean Environmental Health Institute (CEHI) - University of West Indies - Caribbean Tourism Organization - Caribbean Natural Resources Institute (CANARI) - Eastern Tropical Pacific Marine Biological Corridor (CMAR) - The Central American Fisheries and Aquaculture Organization (OSPESCA)

"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."[31]

Each region has a number of capacity development initiatives that are of relevance to the management of oceans, both within and beyond national jurisdiction. While it would be impossible to provide a full picture of all initiatives, the following table includes selected examples, which were provided by the participants in the Common Oceans Program ABNJ Regional Leaders Program,[32] the Workshop on capacity development to improve the management of marine Areas beyond National Jurisdiction,[33] and the Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction (ABNJ),[34] these examples are not comprehensive, and suggested additions to it are welcomed.

7.2 Regional needs for capacity development

There are many similarities among regions in regards to their capacity development needs, as expressed in the two Common Oceans Program workshops and in the ABNJ Regional Leaders training but also some differences. In fact, there was strong agreement from participants in these workshops that **capacity development measures should be carefully tailored to the needs of each region** and promote "home-grown" approaches using regional and national institutions and universities as a basis. With regards to regional cross-sectoral approaches to management of ABNJ, the form in which such approaches develop can vary and is highly influenced by the legal, socio-political, institutional, and ecological factors of the region.[35] The participants also indicated that capacity development should address **both human and institutional aspects** and should not place undue burden on SIDS and LDCs.

With regards to similarities, all regions expressed the need for more **cross-sectoral capacity development**. In general, most regional participants stated that training and other capacity development initiatives were ongoing in their regions, but that this training was often quite narrowly focused and not cross-sectoral. In most cases there is limited national capacity to engage across sectors and ministries, and lack of coordination among various agencies and stakeholders. A similar lack of cross-sectoral initiatives is common amongst regional organizations. One participant pointed out that the lack of capacity to evaluate, monitor, and engage cross-sectorally can be an inhibiting factor for management of EEZs as well as ABNJ. Thus, cross-sectoral capacity development may also improve coordination between agencies working on different ocean issues and provide for better integrated management and information exchange.

In a similar vein, **improving coordination** within the country, both within ministries and across sectors, is important so that national representatives engaging with the ABNJ process understand priorities for all relevant ministries and sectors. Improving coordination with stakeholders, industries and other user groups will allow national representatives engaging with the ABNJ process to also understand user group needs. One of the issues to consider is how technology can be used to improve coordination, and incentivize action so that it becomes better coordinated and holistic, rather than sectoral. Coordinated approaches are needed in managing different ocean areas, and thus putting in place processes and structures for national and regional coordination will improve ocean governance both within and beyond national jurisdiction.

Many regional participants indicated that there was a need to undertake **institutional capacity development and provide incentives to retain the best people**. As individuals within an institution are trained, they often have the opportunity to move on to better jobs, and retaining and attracting qualified staff and specialists within national agencies is an issue. Thus, training individuals does not necessarily translate to effective institutional capacity development. Institutional strengthening and capacity development are needed, as are incentives to attract and retain the best quality staff in fisheries and biodiversity.

According to workshop participants, there is also still relatively low awareness about ABNJ and ocean issues in general in many regions, as well as the process for negotiating a new International Instrument. Thus **awareness-raising** on all levels is a central need for regions. Among decision-makers, there is a need for increased awareness about ABNJ

31 FAO/UNEP project on Securing the Foundations for Fish Food Security in a Changing Ocean. https://wedocs.unep.org/bitstream/handle/20.500.11822/11023/rfb-rs-scoping-wkshp-day1-abidjan%20convention.pdf?sequence=1&isAllowed=y

32 GOF (2016) ABNJ Regional Leaders Program 2015-2016 at the United Nations Summary Report. https://globaloceanforumdotcom.files.wordpress.com/2016/01/abnj-regional-leaders-program-brochure.pdf

33 GOF/FAO (2017) Workshop on capacity development to improve the management of marine Areas beyond National Jurisdiction (ABNJ): Needs, experiences, options, and opportunities, May 18–21, 2016 in St. George's, Grenada. Summary Workshop Report. Available: http://www.fao.org/documents/card/en/c/0044357b-1b7c-4f8f-b2b2-763702ad836a/

34 GOF/FAO (2016) Summary Report of Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction (ABNJ). Food and Agriculture Organization of the United Nations, Rome. Available: http://www.fao.org/3/a-i5772e.pdf

35 Appiott, J. (2018). Regional Approaches to Cross-Sectoral Area-based Management in Marine Areas Beyond National Jurisdiction: Conditions for Successful Development and Implementation (Doctoral dissertation). University of Delaware. See also UNEP (2016) Regional Oceans Governance. Making Regional Seas Programmes, Regional Fishery Bodies and Large Marine Ecosystem Mechanisms Work Better Together. https://www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-unep-06-en.pdf.

Table 4. Examples of Capacity Development Initiatives Related to ABNJ in the Pacific, Asia, Africa, Latin America and the Caribbean

Pacific	Asia	Africa	Latin America and Caribbean
- **Pacific Community (SPC)** conducts scientific stock assessments for species in the region and is a hub for in-zone biodiversity research – it runs workshops with members to assess data - **The Forum Fisheries Agency manages** train-the-trainer programmes and SPC delivers the observer training - **The University of the South Pacific (USP)** includes a number of formal and long-term undergraduate programmes that are relevant for ABNJ, including ICZM training, fisheries resources, marine spatial planning, economics, law of the sea. USP also runs short-term targeted training sessions on specific issues, such as stock assessments and monitoring, control and surveillance. - **SPREP** works with partners to provide training and capacity support on ecotourism, waste management, and has developed EIA guidelines and an EIA practitioners' network for the sharing of information and support between EIA practitioners in the region.	**Cross-sectoral training** with regard to EEZ management, that is also applicable to ABNJ is provided by: - **Coral Triangle initiative (CTI)** - **Bay of Bengal Large Marine Ecosystem Project (BOBLME)** - **UN and Nippon Foundation** (30 alumni from the Asia region trained to date) - **Partnership for Environmental Management of Seas in Southeast Asia (PEMSEA)** - **Coordinating Body on the Seas of East Asia (COBSEA)** - **Sulu Sulawesi Marine Ecoregion** -**Sectoral** training with regard to specific resources/uses is provided by: - **The National Institute of Oceanography (NIO) Goa India** - **The Indian National Centre for Ocean Information Services, India** - **Fisheries research centres in Sri Lanka and Maldives** - **Indian Ocean Tuna Commission (IOTC)** - **Group of Experts on Maritime Confidence-Development and Maritime Law Enforcement Study Group in the South China Sea**[22] - **International Ocean Week (IOW), which has been orginized yearly by China Oceanic Development Foundation on multiple topics, including MSP, blue economy, ocean biodiversity and environmental management** - **The South China Sea International Conferenc on Cooperation of Regional Security and Development**[23]	- **FAO's EAF-Nansen Project** - **FAO/UNEP project,** Securing the Foundations for Fish Food Security in a Changing Ocean - Capacity development in the context of **Regional Seas, Regional Fisheries organizations and LME Projects** - Indian Ocean Commission (funded by the EU) - Indian Ocean Rim Association (IORA) - The Abidjan Convention Secretariat -Working Group on ABNJ	**Cross-sectoral training is provided by:** - **University of West Indies** - **Nippon Fellowship** - **Southeast Pacific data and information network in support to integrated coastal area management (SPIMCAM)** - **Commonwealth Secretariat training** - **Caribbean Marine Protected Areas Managers** (*CaMPAM*) network training - **UNEP Caribbean Environment Programme** training Sectoral training: - **Caribbean Regional Fisheries Mechanism (CRFM)** short courses in various aspects on fisheries and oceans management - The Caribbean Marine Atlas (CMA), a regional project of the International Oceanographic Data and Information Exchange (IODE) and IOC of UNESCO on marine data

issues in general, as well as about the purpose of the proposed international instrument for ABNJ, and the obligations contained within it. This includes understanding the relevance of ABNJ to national interests and priorities, including sustainable development, poverty reduction and job creation. As ABNJ is currently not a focus amongst many policy-makers, political will may be lacking. Concentrating capacity development at the policy and political levels in these early stages could therefore be beneficial. Among the public and resource users, there is need to better understand the nature and relevance of marine biodiversity in ABNJ, thus developing a common understanding of what is being achieved through the negotiations,

and through improved ocean governance, and creating ownership and greater engagement in the effort. Coastal States will need to be empowered to actively participate in ocean management and development. Among regional organizations, including RFMOs and Regional Seas, there is also a need to raise awareness of the ABNJ process and opportunities for greater engagement in it. This would include enhancing the understanding of regional organizations and their member States of their roles and responsibilities regarding coordination and engagement in ABNJ. Finally, lessons learned from national actions on area-based management (ABM) can greatly contribute to ABM in ABNJ, therefore further promotion and awareness of the potential benefits of ABM to regional and national ocean governance are encouraged.

Many regions still lack **information, scientific data and technology** to participate in effective management of their EEZs as well as in ABNJ. While data often exist in certain organizations, there is a lack of sharing of data for the purposes of integrated ocean governance, and lack of capacity to analyze data and make information available for management, as well as developing and managing national marine biodiversity databases. Much information is held outside of regions where it was originally collected and should be repatriated to its country or region of origin. There is also a gap between those generating data and information and those using the information for management and policy. One proposal was the creation of a centralized information resource base for a region and/or globally, or, alternatively, networks of collaborating information providers. This may be something that a clearing-house mechanism for the new International Agreement might help facilitate. Consideration could also be given in that regard to the role of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including socioeconomic aspects. Access to technology and equipment was also lacking in many regions, and there was a general lack of development and transfer of marine technology as established under UNCLOS. According to the IOC Global Ocean Science Report,[36] scientists from developing countries have fewer publications and lower impact factor (ratio of citations to publications) than scientists in developed countries. Some proposed solutions included the promotion of international cooperation regarding marine scientific research, information sharing and collaboration, and a centralized marine database to support capacity development. Additionally, the absence of an RFMO or existence of RFMOs lacking in capacity leads to gaps in the ability to capture data and ability to coordinate among stakeholders.

With regard to **specific topics for capacity development**, needs exist in all aspects of the proposed International Agreement. Specific topics include area-based management involving multiple ocean users, and how planning tools (e.g. marine spatial planning and EIA) relate to management tools (MPAs, PSSAs, EBSAs, etc.), with special emphasis on undertaking marine spatial planning and zoning; undertaking EIA/SEA in ocean areas; research and development of marine genetic resources; compliance and enforcement; marine scientific research; legislation, as well as other areas, which inform decision-making on conservation and sustainable use of marine biodiversity in ABNJ. It was noted that regional initiatives in area-based management are quite limited in many regions, and therefore encouraging them also increases capacity for management of adjacent ABNJ. The role of regional and national universities in ocean-related education and training was also emphasized, and structures to build capacity through them should be developed.

Concerning area-based management, some recent advances on capacity building on this topic have been made by the GEF/FAO/WCMC ABNJ Deep Seas Project,[37] which developed and tested a methodology for area-based planning in ABNJ in two pilot areas, the Western Indian Ocean (Nairobi Convention area) and the South-East Pacific Ocean (area of the Permanent Commission for the South Pacific (CPPS)). The project used the Capacity Development Assessment Tool[38] structure the assessment against 20 capacity elements falling under three components: internal attributes, resources, and enabling environment to produce capacity assessment results. Much of this feedback revolved around the need to develop specific communication materials that will improve the overall understanding of the member countries of area based-planning in ABNJ including the need and benefits.

As negotiations for the new International Agreement are starting, there is also a need to **build regional capacity to participate in BBNJ negotiations and other ocean-related processes**. Proposals included developing a regional network of negotiators; providing technical support to negotiators; and development capacity and strategic partnerships that will enable countries to participate in the planning and management of ABNJ.

Finally, all regions faced **resources constraints**, including lack of human, financial and material

36 IOC or UNESCO Global Ocean Science Report: http://unesdoc.unesco.org/images/0025/002504/250428e.pdf

37 Macmillan-Lawler, M., Thomas, H., Fletcher, R., and Martin, J. 2018. Capacity assessment for area based planning in areas beyond national jurisdiction for the Permanent Commission for the South Pacific. Final Report 16pp.

38 https://www.unep-wcmc.org/resources-and-data/unep-wcmc-capacity-development-assessment-tool-cdat

resources. Many programmes and organizations lacked resources, particularly financial resources, to meet their own mandates. Thus, reliable long-term financing needs to be available to support capacity development.

7.3 Proposed regional modalities

All participants of the Workshop on capacity development to improve the management of marine Areas beyond National Jurisdiction (ABNJ): Needs, experiences, options, and opportunities held on May 18–21, 2016 in St. George's, Grenada agreed that capacity development has to lead to genuine development of human resources and institutional capacity, responding to national and regional needs.[39] The modalities discussed included the following:

- **Identification and assessment of regional and national objectives and needs for capacity development and technology transfer** – The first question to be asked is where do countries and regions want to be in terms of capacity? What are their objectives for capacity development? This is a decision for states and not trainers/development partners to make. Capacity development needs to be relevant, sustainable and appropriate, and needs to be well defined with a clear picture of what needs to be achieved both nationally and regionally. Thus, the first step in the process should be a capacity development needs assessment, potentially coordinated by a regional organization working together with national governments.
- **Enactment of comprehensive ocean policy aligned with other regional and international frameworks, and addressing capacity needs in this context** – Addressing ABNJ needs in the context of comprehensive ocean governance will ensure coordination and cooperation and allow access to technical assistance and resources. A key issue is addressing ocean governance as a whole throughout national EEZs and ABNJ to establish a coordinated management regime, which is developed on existing international law, and regional and national policies and legislation. Any planned capacity development initiatives should be linked with existing organizations and networks. For example, workshop participants from Africa proposed the development of an African strategy on ocean governance in the context of the African Integrated Maritime Strategy 2050 and Agenda 2063. Thinking broadly of ocean capacity, rather than focusing only on ABNJ, will link ABNJ discussions with Blue Economy and poverty reduction within national EEZs.
- **Strengthening regional and national institutions and universities** - The creation of a conducive, enabling environment at the institutional level is critical to retaining staff and to encourage those who have left for further study to return. Investing in a few regional and national training institutions and centres to build tailored "home grown" capacity initiatives could make a difference. For example, Pacific workshop participants proposed supporting the University of the South Pacific (USP) develop training capacity for ABMT and other issues relevant to ABNJ, developing long-term institutional capacity rather than project-specific capacity. Global universities, such as the World Maritime University, could also play an important role in developing capacity nationally, regionally and globally.
- **Development of better cross-sectoral coordination through capacity development** - Cross-sectoral approaches should be fostered through capacity development, and these approaches will allow exchange of solutions between sectors to resolve urgent issues; the development of cooperative frameworks; and improving information exchange among sectoral agencies. There are lessons to be learned from collaboration between environment and fishery communities, and this collaboration could extend to include other sectoral efforts, such as climate change. Institutionally, cross-sectoral coordination is also needed to potentially expand existing mandates to include ecosystem management in ABNJ more coherently. 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 receive sufficient financing to be sustainable and long lasting.
- **Exchange of experiences between regions** - Collaboration and sharing among regions should also become part of capacity development. There is much to be learned from other regions, including looking for lessons and shortcuts for integrated ocean management. For example, workshop participants from the Pacific expressed that the region can offer experience to other regions on the role of traditional knowledge in marine planning and management. Regional exchange of information and solutions can play a key role in helping regions with little information and resources to benefit from lessons learned by regions with successful ocean governance. There are some emerging experiences on this, including, for example, the Sustainable Ocean

39 GOF/FAO (2017) Workshop on capacity development to improve the management of marine Areas beyond National Jurisdiction (ABNJ): Needs, experiences, options, and opportunities, May 18–21, 2016 in St. George's, Grenada. Summary Workshop Report. Available: http://www.fao.org/documents/card/en/c/0044357b-1b7c-4f8f-b2b2-763702ad836a/

Box 7. African Initiative Relating to ABNJ: The Abidjan Convention

The Abidjan Convention Decision CP. 11.10 on the Conservation and Sustainable use of the Marine Biodiversity of the Areas Located beyond National Jurisdictions requested the Secretariat "to set up a working group to study all aspects of the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction within the framework of the Abidjan Convention, pursuant to the United Nations Convention on the Law of the Sea and taking into account the process under way within the framework of the United Nations, and especially the work 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."

The working group on areas beyond national jurisdiction (hereinafter referred to as the WG ABNJ) requested by this decision will be established as an ad hoc working group to the Conference of the Parties according to the Abidjan Convention Article 17 where the meetings of COP are able to "establish working groups as required to consider any matters concerning this Convention and its related protocols and annexes".

The overall goal of the Programme of Work, consistent with the Abidjan Convention Decision CP. 11.10, the overall Abidjan Convention framework, as well as the framework of the United Nations Convention on the Law of the Sea, and taking into account the upcoming negotiations for an international legally binding instrument on ABNJ, is to study all aspects of the conservation and sustainable use of marine biological diversity in ABNJ, in particular the topics identified in the package agreed in the General Assembly Resolution 66/231, namely 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.

Initiative Global Dialogue with Regional Seas Organizations and Regional Fishery Bodies, coordinated by the CBD Secretariat, FAO and UN Environment. Exchange of experiences can also be undertaken within and among nations in order to develop specific capacities such as through the Partnership for Regional Ocean Governance.[40]

- **Create a platform to capture experiences and draw lessons learned to be shared globally** – a clearing-house mechanism for sharing experiences, lessons, data and research results could enable global sharing of all things related to ABNJ and ocean governance.
- **Provide sustainable and coordinated funding** that recognizes the situation of SIDS and LDCs and provides for consistent and reliable support for capacity development. This could be undertaken through a global funding mechanism, to be established for the new International Agreement.

See Boxes 7 and 8 for some examples of African and Caribbean initiatives relating to ABNJ.

While the above provides a pathway towards regionally-appropriate capacity development, there were also specific suggestions about the types of actions that could help deliver the required capacity:

- **Supporting marine scientific research, technology transfer and innovation**, including through scientific collaboration, joint research efforts and technology transfer related to MGRs (in situ, ex situ and in silico), translating scientific information to policy, facilitating access to research vessels, providing access to data and information, scholarships and research opportunities, including exchanging research visits and strengthening of local institutions.
- **Providing for awareness-raising on all levels** from decision makers to the general public. Ocean literacy should be an early priority, as professionals and others should be able to describe what the ABNJ ecosystem looks like, know how it functions, who its multiple and growing uses are, and thus, the need for protection that the new International Agreement will provide. One suggestion from the African workshop participants was a publication titled 'What does ABNJ mean to Africa.'
- **Identification of ambassadors/champions** for oceans, including ABNJ. Ambassadors/champions could build awareness, literacy and political momentum in the early stages of capacity development.
- **Creating conditions for retaining young leaders in their professional career,** including through developing a retention strategy that might include paid research positions for post docs and other young researchers.
- **Delivery of training courses** including specialized short-term

40 Partnership for Regional Ocean Governance: https://www.prog-ocean.org/about/the-prog/

Box 8. Case Study: The Caribbean Marine Atlas (CMA)

The Caribbean Marine Atlas (CMA) is a regional project of the International Oceanographic Data and Information Exchange (IODE) of the Intergovernmental Oceanographic Commission (IOC) of UNESCO. CMA is funded primarily by the Government of Flanders (Kingdom of Belgium). CMA phase 2, which commenced in 2014, is developing a regional data, information and services sharing platform that will contribute to the development of national and regional atlases and related products and services. It will support decision making and monitoring and evaluation processes for improved marine and coastal resources management in the region comprising the Caribbean and North Brazil Shelf Large Marine Ecosystems (the "CLME+" region) and Integrated Coastal Zone Management (ICZM) policies at the regional and national scale. To ensure uptake, sustainability and up-scaling of results, CMA2 has been closely linked to the implementation of the regionally endorsed 10-year CLME+ (for which Fisheries Division is the executing agency). The José Benito Vives de Andréis Marine and Coastal Research Institute (INVEMAR) of Colombia has been selected as the project coordinator and is tasked with the operationalization of CMA2.

training on legal matters regarding ABNJ; long-term term course curricula on ocean biodiversity/genetic resources; continuing education on area-based planning and management tools; training in all aspects related to ABNJ (EBM/EAF, EIA, MGRs, activities relevant to ABNJ, legal components); updating national and regional strategies, policies and legislation; links with universities, including development of online programmes; and resource centre (clearing-house mechanism) with information about research, policies and other relevant topics.

7.4 Linking the global, regional and national levels

This section has so far discussed the regional context, needs and modalities for capacity development. However, the regional level does not operate in isolation, but in the context of the global and national levels. Linking the three levels for the delivery of capacity development might be undertaken along the lines of figure 2. The global level, consisting potentially of a Conference of the Parties, a Secretariat, a financial mechanism and a clearing-house mechanism, as well as supporting international organizations, provides technical support, expertise, and guidance, organizes regional workshops, provides financial support and facilitates the exchange of information. The regional level, consisting of regional organizations and institutions, coordinates and facilitates regional and national capacity needs assessments, provides regional expertise and undertakes some development delivery on the regional and global levels. The national level works with the regional level to undertake national capacity needs assessments, provides national expertise and facilitates the delivery of capacity development on the national and local levels.

As well, moving towards cross-sectoral regional approaches in ABNJ presents a complex picture of regions, as there are different types of country membership to different types of regional mechanisms. For example, Regional Seas Conventions and Action Plans are composed of coastal States, which RFMOs also include distant water fishing nations.[41] The different types of memberships to these different mechanisms, and the potentially differing motivations and priorities of Coastal vs. non-Coastal States, presents an additional complicating factor.[42]

Figure 2 illustrates the two-way flow of information among all levels and the facilitating and coordinating role that regional organizations can play.

7.5 National context, needs, and possible modalities for capacity development

It is essential for national governments to have a clear understanding of their national interests in ABNJ not only in the benefits that may be derived from its living and non-living resources but also as they affect the marine environment and resources in their EEZs due to the highly interlinked nature of the oceans and the ecosystems found therein. Threats to the oceanic habitats in ABNJ such as those emanating from destructive and IUU fishing, research activities and bioprospecting, deep-sea adventure tourism, marine debris, ship-source pollution, illegal dumping and the legacy of historical dumping, seabed minerals development, oil and gas and geothermal energy exploration, light and noise pollution, and climate change could also adversely impact marine ecosystems in the EEZs and vice versa.[43]

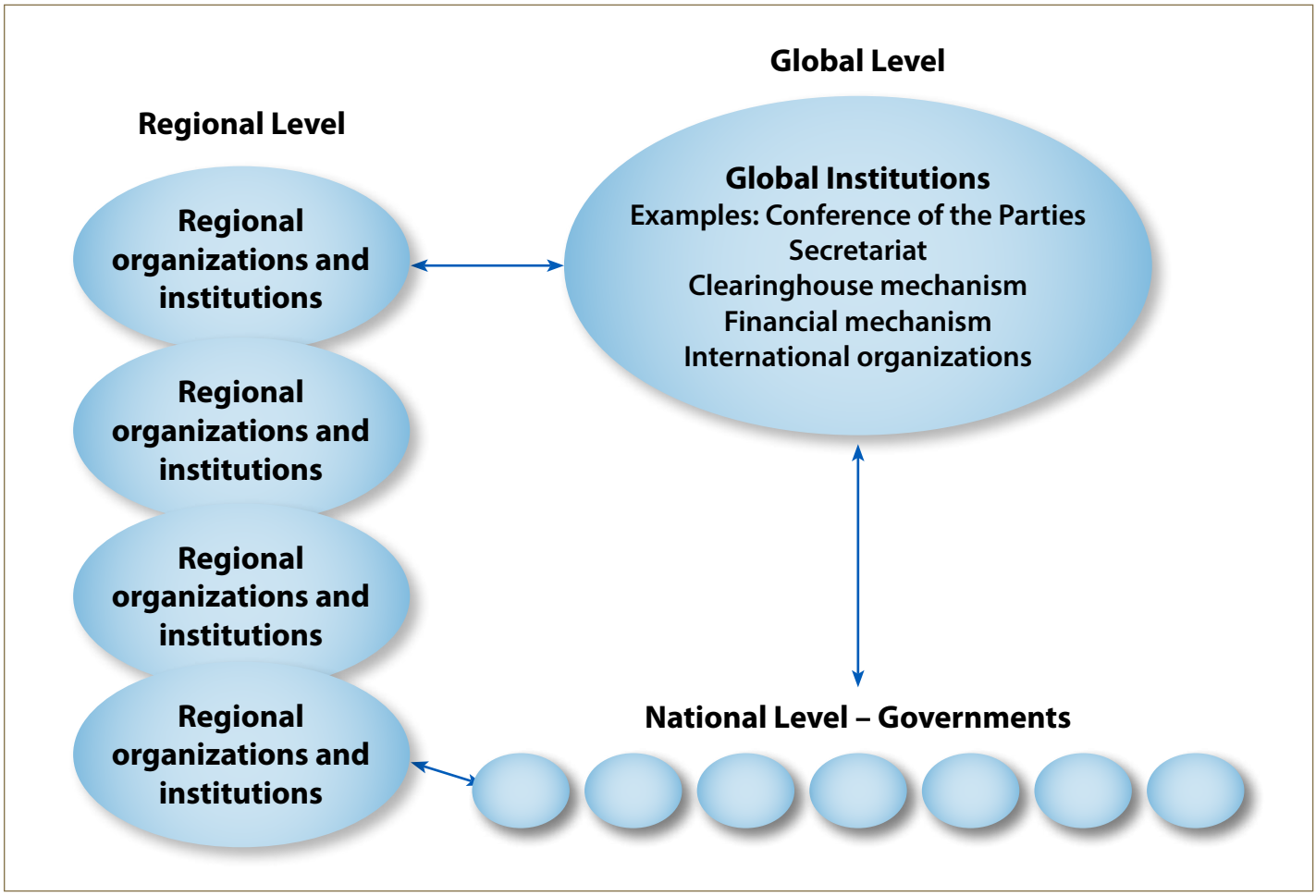
National governments, especially

41 UNEP (2016) Regional Oceans Governance. Making Regional Seas Programmes, Regional Fishery Bodies and Large Marine Ecosystem Mechanisms Work Better Together. https://www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-unep-06-en.pdf

42 Appiott, J. (2018). Regional Approaches to Cross-Sectoral Area-based Management in Marine Areas Beyond National Jurisdiction: Conditions for Successful Development and Implementation (Doctoral dissertation). University of Delaware.

43 CBD (2008) Options for Preventing and Mitigating the Impact of Some Activities on Selected Seabed Habitats. https://www.cbd.int/doc/meetings/sbstta/sbstta-13/

Figure 2. Linking Global, Regional and National Levels for Capacity Building



in developing countries and SIDS, have to define their national interests (economic, ecological, social, etc.) and develop capacity to determine their respective positions in the management and governance of ABNJ. In particular, national governments need to articulate a coherent position among their national institutions in order to participate effectively in the international fora where MGRs, various ocean uses, and other issues of marine biodiversity in ABNJ are under discussion and the development of an international legally binding instrument (International Agreement) under UNCLOS on BBNJ is about to commence. The process may entail the formation of national inter-agency processes to examine the ABNJ issues from a national perspective, which some countries are already doing, for example, Peru.[44]

7.6 Possible modalities for national capacity development: establishing nationally determined goals (NDGs) for BBNJ in line with the new International Agreement

The discussions at the BBNJ Prep-Coms have shown the ongoing debate as to the nature of the International Agreement institutional framework, with options that include: 1) an overarching framework similar to the UNFCCC, with a pledge-and-review approach for member nations; 2) a framework that provides the operational details on how to protect fragile ecosystems in the deep seas, linking the general provisions of UNCLOS and the concepts, approaches and guidelines developed under the CBD, and international sectoral and regional bodies, similar to the UN Fish Stocks Agreement but broader in scope; 3) a structure with a Conference of the Parties as a mechanism for developing gradually ambitious and measurable objectives; and 4) a hybrid approach that incorporates relevant elements of existing frameworks.[45] The following possible modalities for capacity development and technology transfer anticipate that the policy framework for International Agreement is one that would rely on national and regional implementation interlinked and embedded within a regional framework of coordination and collaboration following an integrated and ecosystem-based approach to management and governance.

Development capacity for ABNJ logically follows setting of national goals on ABNJ and the corresponding activities formulated to achieve

information/sbstta-13-inf-13-en.pdf

44 Gutiérrez Figueroa, F. (2015) A Peruvian perspective for the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. Thesis. United Nations -The Nippon Foundation of Japan Fellowship Programme.

45 IISD Reporting Services (2017) Summary of the Fourth Session of the Preparatory Committee on Marine Biodiversity Beyond Areas Of National Jurisdiction: 10-21 July 2017. Earth Negotiations Bulletin 25(141).

those goals. As in any capacity development and technology transfer process, this requires a systematic assessment of needs. The concept of developing nationally determined goals for BBNJ (NDGs) is explored as a way forward to meet this need.

The concept of Nationally Determined Goals (NDGs) is an adaptation of the Nationally Determined Contributions under the UNFCCC Paris Agreement. Nationally determined contributions (NDCs) embody efforts by each country to reduce national greenhouse gas emissions and to adapt to the impacts of climate change in pursuit of the long-term goals of the Paris Agreement. The development of NDCs requires a national process, identification, collection, and analysis of benchmark data as a basis for developing national contributions for mitigation, adaptation, and means of implementation.[46]

As in the case of climate change, while BBNJ is a global challenge, each nation faces unique circumstances, including different interests and priorities in ocean and coastal management, different bodies of water (ABNJs) of national concern, different risks from a changing ocean environment and status of resources, and different resource needs. Through their nationally determined goals for BBNJ, countries can tailor their commitments to their own national priorities, capabilities, and responsibilities. These individual national measures can be the basis for collective action towards the achievement of global International Agreement goals.[47]

For the BBNJ, developing NDGs could involve the process of identifying national interests, setting national goals, assessing national needs and developing national capacity and means for achieving national goals on BBNJ in line with the goals of the new International Agreement. The development of NDGs could involve, for example, developing national goals for area-based management including establishing high seas MPAs, EIA, and capacity development and technology transfer, based on a national-regional process, identification, collection, and analysis of benchmark data in line with International Agreement goals for these elements.

The development of NDGs for BBNJ would entail efforts by countries within a region, whose EEZs/territorial waters border a particular common regional/international body of water, especially at the initial stage of goal setting. This process should take into account information resulting from existing regional initiatives such as the LMEs (e.g., transboundary diagnostic analysis), the Regional Seas Program initiatives, and initiatives of regional fishery bodies. The CBD regional workshops to facilitate the description of ecologically and biologically significant marine areas (EBSAs) could possibly be a part of NDG development and provide relevant information for national goal setting, as, for example, many EBSAs can serve as candidate areas for high seas MPAs.

The development of NDGs would also require incorporating national goals on BBNJ in line with a new International Agreement into existing national ocean policies as part of the process of policy development. The role of inter-agency mechanisms developed for EEZ policy development and implementation could be expanded to include national goals for BBNJ,[48] which would serve to benefit EEZ management from an integrated and ecosystem-based perspective. Broader still, placing the entire EEZ and ABNJ planning within the framework of the 2030 Sustainable Development Agenda and SDG14, in particular, strengthens the process by ensuring consideration of environmental, social and economic dimensions.

After national goal setting, national governments would then have to carry out a self-assessment by comparing existing activities, capacity and other arrangements in ABNJ with the new activities, corresponding capacity development and technology transfer needs in order to achieve their new national goals on BBNJ in line with the new International Agreement. From a capacity needs assessment on ABNJ conducted by the Global Ocean Forum, it appears that capacity is a major constraint to ABNJ management.[49] Capacity development and technology transfer needs may include: Materials and equipment, human resources (relevant competencies), solutions (knowledge, technologies), government/other infrastructure systems, policy frameworks and other institutional needs, and financial resources. Specific capacity development needs in ABNJ identified by countries include: 1) Scientific/technical (data gathering, scientific research or assessment); 2) Policy/legal capacity (need to understand the science policy-interface, the appropriate legal frameworks and relevant International Agreements); and 3) Awareness/understanding of ABNJ issues especially for decision-makers, policy makers, negotiators, and legal experts at the national level.[50] The IOC/UNESCO Global Ocean Science Report, which provides a comprehensive view of ocean science

46 UNFCCC (2018) Nationally Determined Contributions (NDCs). https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions

47 Climate and Development Knowledge Network (CDKN) (2016) Planning for NDC Implementation Quick Start Guide. https://www.cdkn.org/ndc-guide/

48 See examples of these inter-agency mechanisms in Cicin-Sain, B., D. VanderZwaag and M. Balgos (Eds.) 2015. Routledge Handbook of National and Regional Ocean Policies. Taylor & Francis, UK. 640 pages, https://www.routledge.com/products/9781138788299

49 Global Ocean Forum (2017) Results of the Survey on Capacity Development in Marine Areas Beyond National Jurisdiction (ABNJ). http://www.fao.org/fileadmin/user_upload/common_oceans/docs/FinalEmailVersionCapacitySurvey_em_071617b.pdf

50 Ibid.

capacities at the national and global levels, could form part of this capacity needs assessment process.[51]

Government agencies to involve in capacity needs assessment are those involved in international negotiations concerning ABNJ and those who are involved in EEZ management such as Foreign Affairs and Permanent Missions; Legal Department; Marine Affairs; Environment; Fisheries; Ports and Shipping; Trade; Mineral Resources; and Tourism. Academic and research institutions as well as non-government and other civil society organizations may also be involved in needs assessment.

7.7 Linking national and regional modalities for capacity development and technology transfer

The development of NDGs may be jointly carried out by a group of countries as a step in a regional planning process for geographically- or ecologically-defined regional waters. This would entail convening adjoining countries or member countries of relevant regional entities (RFMOS, Regional Seas, LMEs, etc.) to develop region-wide goals for MGRs, area-based planning including MPAs, EIA, and capacity development. A regional ocean assessment and other environmental studies may have to be undertaken to provide benchmark information as a basis for the regional planning process which could take the form of marine spatial planning (e.g., the EU Marine Strategy Framework Directive encourages a regional seas approach to marine spatial planning and use of existing regional organisations, such as OSPAR, to facilitate this process).[52] There may be need to develop capacity to undertake integrated assessments as well as to build capacity of policy-makers to assimilate and apply scientific information. Models of successful regional planning processes applied to the territorial waters of states within a country or EEZs of countries within a region may be adapted for the same purpose in ABNJ. For example, the development of the Mid-Atlantic Regional Ocean Action Plan[53] within the framework of the United States National Ocean Policy showed how the development of a regional ocean data portal[54] has facilitated the regional planning process. The EU process of developing an integrated maritime policy for the EU involved: 1) creation of a task force that oversaw a wide-ranging year-long consultation on a future maritime policy for the EU; and 2) development of a detailed action plan.[55]

A regional plan for capacity development and technology transfer in BBNJ can then be systematically designed based on established national capacity development and technology transfer needs of countries within the region based on their NDGs. The development of a model regional training strategy designed to develop a standardized set of core competencies needed by national governments for effective BBNJ engagement at all levels that could be modified to fit regional and national situations may be considered to implement the regional plan. This regional plan could inform the development of a funding mechanism for capacity development and technology transfer.

The clearing-house mechanism for BBNJ could serve as the registry for the NDGs for BBNJ. The information contained in the NDGs would also inform a "match-making" function for identified needs and service providers in a clearing-house mechanism for BBNJ. Perhaps regional clearing-house nodes would be appropriate for this purpose.

7.8 Leverage existing efforts in capacity development and technology transfer

It is also important that capacity development and technology transfer to implement International Agreement consider and take advantage of existing efforts in ABNJ carried out at all levels. In a survey of capacity needs assessment on ABNJ conducted in 2016, with 138 respondents from national, regional, global organizations, existing capacity development activities including seminars, workshops, conferences, training sessions and manuals and guidelines were commonly identified by at least 44% of the respondents at the national level, and 50% at the regional level.[56]

In an ongoing sampling of existing efforts by UN and other international organizations, governments, and civil society organizations including NGOs, foundations, and academic institutions, undertaken as part of the development of this Policy Brief, capacity development activities include:

- UN and international organizations (e.g., CBD Secretariat, FAO, IOC/UNESCO, ISA, IOI, PEMSEA): Training sessions/ courses, workshops and seminars, internships, interactive meetings, multi-stakeholder dialogues, online networks, outreach programs, compliance support missions, legislative template, University course/Master's program, testing and piloting of innovative technology, online information portal,

51 UNESCO (no date) Global Ocean Science Report. https://en.unesco.org/gosr?language=fr

52 OSPAR Commission (2009) Overview of national spatial planning and control systems relevant to the OSPAR Maritime Area. https://www.ospar.org/documents?v=7133

53 2016 Mid-Atlantic Regional Ocean Action Plan. https://www.boem.gov/Ocean-Action-Plan/

54 Mid-Atlantic Ocean Data Portal. http://portal.midatlanticocean.org/

55 Gambert, S. (2015) The Integrated Maritime Policy of the European Union, pp. 495-503. In B. Cicin-Sain, D. VanderZwaag, and M. Balgos (Eds.) Routledge Handbook of National and Regional Ocean Policies. Routledge, London and New York.

56 Global Ocean Forum (2017) Results of the Survey on Capacity Development in Marine Areas Beyond National Jurisdiction (ABNJ). http://www.fao.org/fileadmin/user_upload/common_oceans/docs/FinalEmailVersionCapacitySurvey_em_071617b.pdf

webinars, manuals and guidelines/ other publications, advising

- Governments (e.g., Malaysia and Tonga): Workshops and fellowship programs. For example, Tonga, through its Permanent Mission in New York, developed a capacity development fellowship at the United Nations through an established mechanism called the Joint Committee. The Project which runs for a duration of one year in New York and has been funded by the Government of Italy since 2016, brings together three young policy makers from the economic, socio-legal and environment departments to build their capacities in science, policy and legal matters relevant to BBNJ and other ocean related areas which fall within Tonga's overall priorities. The fellowship is carried out through a set curriculum which incorporates both an academic and a practical component and include auditing post-graduate environmental law programs, field studies in laboratories in a select number of universities, attending relevant ocean conferences, workshops and training courses, which enhance their understanding and capacity of the science policy interface and their ability to deliver for Tonga through the assistance and advice provided to the Permanent Mission in BBNJ negotiations and to the Government at the conclusion of the Fellowship.
- Civil Society (e.g., The Nippon Foundation, Japan; Ocean Policy Research Institute of the Sasakawa Peace Foundation, Japan; Vietnam National University; Global Ocean Forum; Nausicaa, France): Conferences, fellowship programs, University courses, training programs, center of excellence, academic research; museum/aquaria exhibits/other public awareness

Similar to the NDCs under the Paris Agreement, NDGs for BBNJ could be submitted every five years (or any appropriate number of years) as part of the monitoring and evaluation of implementation and for setting new national goals (resetting ambitions) towards the achievement of the global International Agreement goals. This would entail: 1) a global stock-taking by all Parties to assess the collective progress towards achieving the purpose of International Agreement and its long-term goals every five years; and 2) based on the outcomes of the global stock-taking, a next round of a national-regional process, identification, collection, and analysis of benchmark data as a basis for developing new national commitments (increased ambitions) for MGRs, area-based management including establishing high seas MPAs, EIA, and capacity development and technology transfer. It is also important to note that some of the interest in ABNJ stems from the need for equitable access to exploit ABNJ resources. In this regard, any efforts to build capacity for access to ABNJ resources should be coupled with capacity to manage and mitigate impacts of these activities through monitoring and enforcement.[57]

Bottom Line:

This section reviews the institutional landscape and rich tapestry of institutions undertaking capacity development in different regions and in different nations at the national level, and explores possible modalities for linking global, national, and regional levels.

At the national level, it is important for national authorities to set goals and priorities and assess capacity needs in regards to a new International Agreement according to their own national priorities, capabilities, and responsibilities. This section suggests the possible consideration of the concept of National Determined Goals for BBNJ (NDGs), which is an adaptation of the Nationally Determined Contributions (NDCs) under the UNFCCC Paris Agreement. This could involve, for example, developing national goals for area-based management, including establishing high seas MPAs, EIA, and capacity development and technology transfer, based on a national-regional process, and identification of benchmark data in line with International Agreement goals for these elements.

At the regional level, there are considerable similarities among regions with regards to expressed capacity development needs, emphasizing tailoring to the unique characteristics of each region, home-grown approaches, cross-sectoral approaches, and improving coordination among ministries, sectors and stakeholders both at national and regional levels. As at the regional level, the process of specifying capacity development modalities for the region, would typically entail the convening of countries and relevant regional entities (Regional Seas programs, RFMOs, LMEs, other) around planning for geographically- or ecologically-defined regional waters. A regional ocean assessment and other environmental studies may need to be undertaken to provide benchmark information for the regional planning process, which may include methodologies such as marine spatial planning. A regional plan for capacity development and technology transfer in BBNJ could then be systematically designed, including developing a standardized set of core competencies relative to BBNJ through a combination of national/ regional capacity development institutions.

57 Appiott, J. (2018). Regional Approaches to Cross-Sectoral Area-based Management in Marine Areas Beyond National Jurisdiction: Conditions for Successful Development and Implementation (Doctoral dissertation). University of Delaware.

8. ADDITIONAL RESEARCH

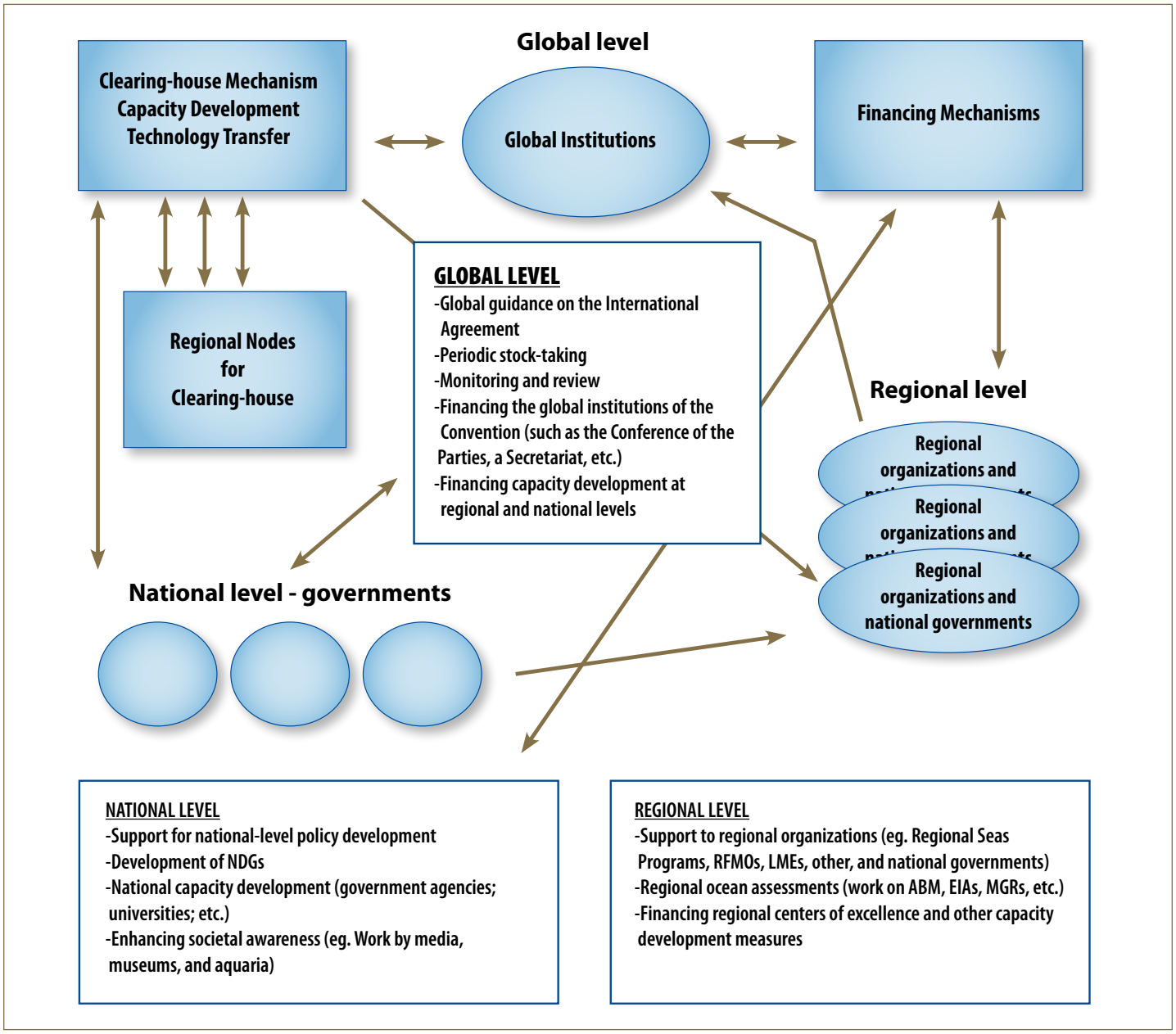
This brief concluding section includes a summary figure bringing together all the various elements discussed in the previous sections—linkages among global, regional, and national levels in capacity development, and interactions with a financing mechanism and a clearing-house mechanism. As well, the section lays out some suggestions for additional research/work that could be carried out to further refine and advance the discussion of various aspects of capacity development related to BBNJ presented in this Policy Brief.

8.1. Summary of major elements and linkages on capacity development

Figure 3 depicts the major elements that we have discussed throughout the Policy Brief and how they might interact together.

At the global level, some combination of global institutions (e.g. possible Conference of the Parties, Secretariat, Committees, etc.) would establish global guidance

Figure 3. Summary of Major Elements and Linkages on Capacity Development



on the implementation of the International Agreement; carry out periodic stock-taking of progress on implementation; monitoring and review, approve financing to support the global institutions and activities of the Convention, etc. Some type of financing mechanism would provide financing support to the global institutions, functions, and activities of the Convention, and to entities at the regional level (regional organizations, national governments, others) to prepare and implement regional ocean assessments and actions related to all the major elements of the convention (area-based management, EIAs, marine genetic resources, etc.), as well as support a range of capacity development measures and institutional enhancements to implement the purposes of the Convention. The finance mechanism, would, as well, support governments and others at the national level to carry out ocean policy assessments and development of explicit policies or plans related to ABNJ and to EEZs, as applicable; develop Nationally Determined Goals on ABNJ; develop capacity development activities through, e.g., joint action between governments and universities/research, and other relevant institutions; and support the enhancement of public understanding about the ecosystems, resources, uses, and importance of the ABNJ through museums and aquaria, targeted information meetings for journalists, etc.

In a similar fashion, a Clearing-house mechanism, would operate as an organ of the Convention, at the global level, to develop and disseminate information and other tools regarding capacity development and technology transfer. It would be useful for the Clearing-house to also have "regional nodes" to ease access and promote utilization of the Clearing-house in all regions. As with the funding mechanism, the Clearing-house mechanism would interact closely with entities at the global, regional, and national levels.

8.2. Some possible directions for additional research/work on capacity development and the BBNJ Intergovernmental Conference

Additional research/analysis work is needed to synthesize ongoing experiences and to draw lessons related to various elements, and to provide options for input into the BBNJ process. The following topics/issues are identified as needing further research, analysis, and multi-stakeholder review:

1) Promote enhanced coordination among current efforts on capacity development in ABNJ

Explore with providers of capacity development in ABNJ (starting with the 25 entities discussed in Section 4 and in the Annex) the fostering of some form of coordination among existing capacity efforts in order to assess the progress/achievements of multiple efforts and of challenges faced, to identify synergies to facilitate the scaling up of capacity development in ABNJ.

2) Consider the role of climate change in the ABNJ and implications for the BBNJ discussions

Oceans are the life support system of the planet, producing half of the oxygen that we breathe. Since industrialization began, they have absorbed nearly 28% of carbon dioxide in the atmosphere, 93% of the heat added to the global system, and nearly all the water from melting ice, resulting, inter alia, in ocean warming, ocean acidification, and sea level rise. Anthropogenic climate change is threatening the critical role of oceans and seas in climate regulation, marine biodiversity and marine ecosystem integrity, food security, livelihoods, human well-being, and the global economy.

While various scientific groups have highlighted the importance of climate change factors on ecosystems in the ABNJ, the implications of the central role of oceans in climate and the extensive impacts on ecosystems and resources associated with ocean warming, ocean acidification and ocean deoxygenation, have not yet been squarely considered in the context of the BBNJ negotiations. These considerations affect all of the major issues being addressed in the BBNJ negotiation. Capacity development and technology transfer will be essential in assisting nations and regions to understand, plan for, and address such considerations.

3) Prepare additional analyses and carry out multistake-holder workshops on marine genetic resources

Regarding marine genetic resources and access to benefit sharing, this is an issue on which, in our view, significant additional dedicated work needs to be done, both in terms of additional analyses and in terms of focused discussions among governments and other stakeholders from both developed and developing nations. This is indeed the most difficult case of capacity development because of the major disparities that exist between developed and developing countries regarding the exploitation of marine genetic resources (in terms of, e.g., scientific knowledge, specialized vessels, laboratory facilities, etc.).

4) Develop a synthesis and draw lessons on area-based management approaches at national and regional levels and accompanying needs for capacity development and technology transfer.

This would include synthesis and the lesson-drawing from the existing examples of area-based management in ABNJ, including the nexus with EIAs and SEAs and with regard to related issues such as marine spatial planning, models for inter-institutional collaboration; and capacity building in compliance and enforcement, e.g.:

-- Experiences at the national level bringing together agencies and stakeholders to develop a national ABNJ strategy and cooperation with other countries in the region;

-- Experiences at the regional level to bring together regional entities and nations on area-based management of ABNJ regions (for example, efforts by CBD and the Government of South Korea, to bring together RFMOs and Regional Seas; the work of the ABNJ Common Oceans Deepsea Project piloting regional area-based approaches in the Abidjan Convention region and in the Commission Permanente Pacific Sur regions), etc.

-- Lessons learned from national and regional examples of successful coordination and collaboration in the possible design of additional future pilot efforts at national and regional levels

5) Structure efforts to advance capacity development at the institutional and societal levels

Throughout the Policy Brief, we have emphasized the need to significantly strengthen capacity development actions and activities at the institutional and societal levels. To move this work forward, it would be useful for governments and stakeholders to identify examples where the institutionalization of capacity development regarding ocean policy and management relevant to ABNJ (at national and/or regional levels) has been carried out successfully, so that analysis can be focused on such cases and lessons learned for possible application elsewhere.

Regarding the question of further developing societal capacity, the media and the world's maritime museums and aquaria (organized into the World Ocean Network) can provide considerable insight and expertise. A recent workshop on *High-Level Dialogue and Global Media Forum: Common Oceans: Why ABNJ Are Essential to People and Planet*, held at Nausicaá French National Sea Center in Boulogne-sur-Mer, France, from June 26 to 28, 2018 (in conjunction with the opening of the world's first-ever large-scale exhibit on the high seas and organized by the Common Oceans Program, the GEF/FAO/GOF ABNJ capacity project, and Nausicaá), developed very tangible recommendations for further action on this question which should be considered for implementation in the next phase.

6) Development of a regular process for monitoring, review, and follow-up

As highlighted in the President's aid to discussions for the forthcoming BBNJ Intergovernmental Conference, this is an element of central concern for the International Agreement. There has not been to our knowledge, extensive analysis of this issue. Examining examples of various approaches to achieve effective monitoring, review, and follow-up in other relevant international agreements could be useful to advance the collective thinking on this issue.

ANNEX
EXISTING EFFORTS ON CAPACITY BUILDING AND TECHNOLOGY TRANSFER IN ABNJ: RESULTS FROM 2018 SURVEY[1]

UN/INTERNATIONAL ORGANIZATIONS

CONVENTION ON BIOLOGICAL DIVERSITY (CBD) SECRETARIAT

Title/Name of capacity building effort: Sustainable Ocean Initiative (SOI)

Type of capacity building: SOI is a global capacity building partnership coordinated by the CBD Secretariat. SOI aims to bring together the range of experiences, skills, capacities and knowledge from across the biodiversity conservation and resource-use sectors to address gaps in capacities for developing countries. SOI focuses on achieving a balance between conservation and sustainable use of marine and coastal biodiversity by applying an action-oriented, holistic and integrated capacity-building framework.

Major topic(s) of capacity building: The various activities of SOI address a range of issues, depending on the needs of the respective regions, countries, recipients, etc., including (a) integrated marine and coastal area management; (b) the description of ecologically or biologically significant marine areas (EBSAs); (c) the application of impact assessments, such as environmental impact assessments and strategic environmental assessments; (d) the ecosystem approach to fisheries; and (e) incorporation of traditional knowledge in the application of the area-based management tools.

Methodology: SOI Global Dialogue with Regional Seas Organizations and Regional Fisheries Bodies on Accelerating Progress towards the Aichi Biodiversity Targets and Sustainable Development Goals, SOI Training of Trainers, SOI regional capacity building workshops, SOI national capacity building workshops

No. of participants trained/served: The Sustainable Ocean Initiative (SOI) has provided training for more than 600 managers and practitioners from more than 100 countries and numerous regional and national organizations/initiatives.

Web address: www.cbd.int/soi and Sustainable Ocean Initiative Action Plan 2015-2020 (available at https://www.cbd.int/doc/?meeting=SOIOM-2014-02)

Other Information: In addition to SOI, there are a number of other capacity building resources and activities that the CBD Secretariat coordinates, which may be relevant to ABNJ capacity, although they are not directly and explicitly addressing ABNJ. These include the following: Protected areas e-learning curricula: https://www.cbd.int/protected/e-learning/default.shtml; Biodiversity e-learning platform (https://scbd.unssc.org); E-learning modules related to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity (CBD) (https://scbd.unssc.org/course/index.php?categoryid=4); BioBridge Initiative (https://www.cbd.int/biobridge/); LifeWeb Initiative (https://lifeweb.cbd.int)

DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA, OFFICE OF LEGAL AFFAIRS, UNITED NATIONS (DOALOS)

Title/Name of capacity building effort: United Nations – Nippon Foundation Training Programme to Reinforce Capacity in the Context of the Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction

Type of capacity building: Training

Major topic(s) of capacity building: (i) Historical development of the General Assembly process dealing with the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction and other related processes; (ii) The relevant provisions of the United Nations Convention on the Law of the Sea (UNCLOS) and other relevant legal instruments and frameworks; (iii) "The package of issues" under consideration, 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 technology; and (iv) Procedural aspects.

1 These data were gathered by members of the Policy Brief effort, through an informal survey of providers of capacity building related to ABNJ. Summary results are discussed in Section 4 of the Policy Brief. Special thanks are due to Miriam Balgos and Alexis Maxwell for coordinating the survey and analyzing the results and to Miko Maekawa and Iwao Fujii for their extensive contributions to the data base. Other organizations involved in ABNJ capacity building, not included in this analysis, are invited to contribute to the survey by contacting the project organizer, bilianacicin-sain@globaloceanforum.org

Methodology: Presentations and group discussions

Target participants: Representatives of developing States who are or will be involved in the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction

No. of participants trained/served: ~75-100 per year

Budget: ~US$ 100,000 per year

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

Title/Name of capacity building effort: TCP/SRL/3603; FAO Technical Assistance project to Sri Lanka

Type of capacity building: Workshops and seminars

Major topic(s) of capacity building: Port State inspections in the Indian Ocean region in accordance with the IOTC Port State Resolution and the Port State Measures Agreement; Enforcement of fisheries law within waters under national jurisdiction and ABNJ; Legal training for senior officials on rights and responsibilities under international law; Observer training; Basic nautical knowledge training; Judicial officers' seminar

Methodology: Interactive workshops and seminars

Target participants: Sri Lanka Fishery officials; Enforcement Officers; Judicial Officers.

No. of participants trained/served: At least 300 participants

Budget: US$ 250,000

Title/Name of capacity building effort: TCP/PNG/3502; FAO Technical Assistance project to Papua New Guinea

Type of capacity building: Workshops and seminars

Major topic(s) of capacity building: Magistrates training on fisheries law; Port State inspections in the Western and Central Pacific Ocean region in accordance with the Port State Measures

Methodology: Interactive workshops and seminars

Target participants: Fisheries officials; Government lawyers; Maritime administration officials; other officials

No. of participants trained/served: At least 120 participants

Budget: US$ 100,000

Title/Name of capacity building effort: TCP/TRI/3601, FAO Technical Assistance project to Trinidad and Tobago

Type of capacity building: Seminar

Major topic(s) of capacity building: Training on international law framework to combat Illegal, Unreported and Unregulated fishing

Methodology: Interactive seminar

Target participants: Fisheries officials; Government lawyers; Maritime administration officials; other officials

No. of participants trained/served: 30 participants

Budget: US$ 10,000

Title/Name of capacity building effort: FAO Legal Internships for Legal Officers in Fisheries and Aquaculture

Type of capacity building: Internships with the FAO Legal Office

Major topic(s) of capacity building: Legal internships for three months at FAO HQ; Various seminars delivered on relevant topics.

Methodology: Internships and interactive seminar

Target participants: Government lawyers working in fisheries and aquaculture

No. of participants trained/served: 2 participants (Legal Officers with the Government of Sri Lanka)

Budget: US$ 17,000

Title/Name of capacity building effort: TCP/STV/3602; FAO Technical Assistance project to Saint Vincent and the Grenadines

Type of capacity building: Seminar

Major topic(s) of capacity building: Training on international law framework to combat Illegal, Unreported and Unregulated fishing

Methodology: Interactive seminar

Target participants: Fisheries officials; Government lawyers; Maritime administration officials; other officials

No. of participants trained/served: 25 participants

Budget: US$ 10,000

Title/Name of capacity building effort: GCP/INT/228/JPN

Major topic(s) of capacity building: "Access and benefit-sharing for genetic resources for food and agriculture – lessons for ABS and MGR?" FAO Side event – 4th session of the BBNJ Preparatory Committee in New York 10-21 July 2017 on the ABS multilateral system of the Treaty on Plant Genetic Resources

Methodology: Interactive meeting

Target participants: ABNJ Deep Sea Partners and Participants of the BBNJ Preparatory Committee including State UN Mission, Delegations of States, IGOs, NGOs and CSO representatives

No. of participants trained/served: 50 participants

Budget: US$ 6000

Title/Name of capacity building effort: FAO: Support to the implementation of the 2009 FAO Port State Measures Agreement

Type of capacity building: Legislative template

Major topic(s) of capacity building: Legislative template to facilitate implementation of the 2009 FAO Port State Measures Agreement and the (almost identical) IOTC Resolution 10/11 on PSM into national legislation of t-RFMO members

Methodology: Publication

Target participants: Officials from States which are, or are considering to become, parties to the 2009 FAO Port State Measures Agreement

No. of participants trained/served: Over 2,000 downloads and almost 3,000 hard copies distributed in English, French and Spanish

Budget: US$ 140,000

Web address: Publication available here: Implementation of port State measures – Legislative template, framework for procedures, and role of regional fisheries management organizations.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO) AND OTHER PARTNERS

Title/Name of capacity building effort: FAO with the tuna regional fisheries management organizations (RFMOs)

Type of capacity building: Support to participation in dialogues between scientists and managers

Major topic(s) of capacity building: This activity aims at facilitating the communication between science and management as part of the management strategy evaluation required in the development of harvest strategies in each tuna RFMO.

Methodology: Dialogues formally established by the tuna RFMOs

Target participants: Fishery officials from developing States

No. of participants trained/served: 105 participants

Budget: US$ 2.5 million (this budget also includes provisions for activities other than capacity building)

Web address: Reports published on the tuna RFMO websites

Title/Name of capacity building effort: International Seafood Sustainability Foundation (ISSF)

Type of capacity building: Skippers Workshops

Major topic(s) of capacity building: ISSF Skippers Workshops bring tuna fishers together with marine scientists for participatory sessions — at key fishing ports worldwide — to share ideas and information on best practices to reduce bycatch.

Methodology: Workshops

Target participants: Purse seine skippers, crew, ship-owners, fleet managers, and cannery managers as well as scientists and government officials.

No. of participants trained/served: More than 3,000 participants since 2009

Budget: US$ 320,000 project contribution plus co-financing by ISSF and its partners

Web address: https://iss-foundation.org/what-we-do/areas-of-focus/bycatch/skippers-workshops/

Title/Name of capacity building effort: Pacific Islands Forum Fisheries Agency (FFA) with the University of the South Pacific: Certificate IV in Fisheries Enforcement and Compliance Training

Type of capacity building: University course

Major topic(s) of capacity building: Fisheries enforcement and compliance training to build a career path for national fisheries monitoring, control and surveillance officers.

Methodology: Online and face-to-face training

Target participants: Fisheries monitoring, control and surveillance officers from FFA members.

No. of participants trained/served: 70 so far

Budget: US$ 110,000 project contribution plus co-financing by FFA and its partners

Web address: http://www.fao.org/fileadmin/user_upload/common_oceans/docs/CertIV_FEC_Report_Oct2015.pdf

Title/Name of capacity building effort: Western Central Pacific Fisheries Commission (WCPFC) and Pacific Community (SPC): Bycatch Management Information System (BMIS)

Type of capacity building: Information web portal

Major topic(s) of capacity building: BMIS is a dedicated web portal for exploring past and present efforts

to tackle critical bycatch issues

Methodology: Information web portal

Target participants: Scientists, fisheries managers and fishers.

No. of participants trained/served: Over 400 unique users in its first six weeks of operation

Budget: US$ 356,000

Web address: https://www.bmis-bycatch.org/

COMMON OCEANS PROGRAM ABNJ TUNA PROJECT, GEF, FAO AND OTHER PARTNERS

Title/Name of capacity building effort: Side event: Capacity Development in ABNJ at 4th BBNJ PrepCom

Methodology: Interactive meeting

Target participants: ABNJ Capacity Partners and Participants of the BBNJ Preparatory Committee including State UN Mission, Delegations of States, IGOs, NGOs and CSO representatives

No. of participants trained/served: 80 participants

Title/Name of capacity building effort: WWF, International Seafood Sustainability Foundation: Tuna Management workshop on the role of management strategy evaluation in the development of harvest strategies

Type of capacity building: Workshops

Major topic(s) of capacity building: The objective is to increase the familiarity of officials from developing states with the rationale for the implementation of the Precautionary Approach, key principles, and an overview of the methods

Methodology: Interactive workshops

Target participants: Fishery officials from developing States

No. of participants trained/served: 240 participants in 7 workshops covering all oceans held so far

Budget: US$ 1.3 million

Web address: News items on recent workshops can be found here http://www.fao.org/in-action/commonoceans/news/en/

Title/Name of capacity building effort: FAO with the tuna RFMOs: Training workshop on Management Strategy Evaluations for data limited tuna fisheries

Type of capacity building: Training

Major topic(s) of capacity building: This activity aims at introducing management procedures that include data-limited stock assessment methods to scientists from tuna RFMO member States and tuna RFMO Secretariats

Methodology: Workshops

Target participants: Scientists from tuna RFMO member States and tuna RFMO Secretariats

No. of participants trained/served: 12 participants so far

Budget: Budgeted together with the previous activity

Web address: New item: http://www.fao.org/in-action/commonoceans/news/detail-events/en/c/887806/

Title/Name of capacity building effort: WWF: Promoting and raising awareness of the merits of RBM schemes in other t-RFMO regions

Type of capacity building: Workshops

Major topic(s) of capacity building: This activity aims at promoting and raising awareness of the merits of rights based fisheries management schemes in tuna RFMO regions

Methodology: Workshops

Target participants: Fishery officials from developing States

No. of participants trained/served: 44

Budget: US$ 240,000

Web address: News items on recent activities s can be found here http://www.fao.org/in-action/commonoceans/news/en/

Title/Name of capacity building effort: International Monitoring Control and Surveillance Network with FAO and the tuna RFMOs Tuna Compliance Network

Type of capacity building: Online network and workshops

Major topic(s) of capacity building: The Tuna Compliance Network aims at facilitating communication and cooperation between officers responsible for compliance and experts in Monitoring, Control, and Surveillance.

Methodology: Online Network and workshops

Target participants: Officers in charge of compliance in the tuna RFMOs

No. of participants trained/served: Currently, the Tuna Compliance Network has 30 members in its core and subgroups, 15 additional people participated in the two workshops

Budget: US$ 320,000

Web address: Brochure available here: http://www.fao.org/3/a-i8146e.pdf; News items: http://www.fao.org/in-action/commonoceans/news/detail-events/en/c/1103425/; http://www.fao.org/in-action/commonoceans/news/detail-events/en/c/876589/

Title/Name of capacity building effort: BirdLife South Africa: National awareness workshop on seabird bycatch issues, national observer trainings and port-based outreach

Type of capacity building: Workshops, trainings and port-based outreach

Major topic(s) of capacity building: Outreach activities to raise awareness and build capacity in relation to seabird bycatch, data collection, management and analyses and reporting to tuna RFMOs

Methodology: Workshops, trainings and port-based outreach

Target participants: National observers, industry representatives, vessel captains and national scientists

No. of participants trained/served: Over 300

Budget: US$ 1.5 million

Web address: News items on recent activities can be found here http://www.fao.org/in-action/commonoceans/news/en/

http://www.fao.org/in-action/commonoceans/news/detail-events/en/c/885079/

Title/Name of capacity building effort: FAO and tuna RFMOs: supplementing capacity building efforts in the tuna RFMOs to improve compliance by members

Type of capacity building: Support to participation in tuna RFMO capacity building activities and Compliance Support missions

Major topic(s) of capacity building: Support to participation in tuna RFMO capacity building activities and Compliance Support missions

Methodology: Trainings, workshops, Compliance Support Missions

Target participants: Fishery officials from developing States

No. of participants trained/served: Over 70

Budget: US$ 1.2 million (this budget also includes provisions for activities other than capacity building)

Web address: News items on recent activities s can be found here http://www.fao.org/in-action/commonoceans/news/en/

Title/Name of capacity building effort: FAO, Governments of Fiji, Ghana and Seychelles, WWF, ISSF, Fiji Fishing Industry Association, and Spanish Organisation of Producers of Frozen Tuna: Electronic monitoring pilots on-board tuna-fishing vessels

Type of capacity building: Testing and piloting of innovative technology on-board tuna fishing vessels

Major topic(s) of capacity building: In Ghana, Fiji and Seychelles, on board electronic monitoring systems are integrated into the compliance tools for national officials to produce better data and have more control of fishing activities

Methodology: Testing and piloting

Target participants: Fisheries administrations in Fiji, Ghana and Seychelles

No. of participants trained/served: Over 50 national officers directly trained on review of EMS footage in Project countries

Budget: US$ 3 million (this budget also includes provisions for activities other than capacity building)

Web address: News items on recent activities can be found here http://www.fao.org/in-action/commonoceans/news/en/; recent experience exchange: http://www.fao.org/in-action/commonoceans/news/detail-events/en/c/1106184/

Title/Name of capacity building effort: Western Central Pacific Fisheries Commission (WCPFC) and Pacific Community (SPC): Bycatch mitigation problem-solving workshop

Type of capacity building: Workshop

Major topic(s) of capacity building: Workshop designed to work through the sea turtle and seabird issues using the BMIS, SPC resources, and participants' national fisheries knowledge and experience.

Methodology: Workshop

Target participants: Officials and representatives from WCPFC members, cooperating non-members, participating territories and approved observer organizations

No. of participants trained/served: ~ 25

Budget: US$ 150,000

Web address: News items on recent activities s can be found here http://www.fao.org/in-action/commonoceans/news/en/

COMMON OCEANS PROGRAM ABNJ DEEP SEAS PROJECT, GEF, FAO AND OTHER PARTNERS

Major topic(s) of capacity building: FAO Side Event on the Launch of the Study on International Instruments relevant to fisheries in ABNJ by Manoa et al at the third session of the BBNJ Preparatory Committee in New York, 27 March to 7 April 2017; Legal Study: Review and Analysis of International Legal and Policy

Methodology: Interactive meeting; Study/Knowledge material

Target participants: ABNJ DeepSea Fisheries Partners

and Participants of the BBNJ Preparatory Committee including State UN Mission, Delegations of States, IGOs, NGOs and CSO representatives; Global

No. of participants trained/served: 70 participants

Budget: US$ 10,000

COMMON OCEANS PROGRAM ABNJ CAPACITY PROJECT, GEF, FAO, GLOBAL OCEAN FORUM, AND OTHER PARTNERS

Type of capacity building: Multi-stakeholder workshops: Workshop on Linking Global and Regional Levels in the Management of Marine Areas Beyond National Jurisdiction, 17-20 February 2015, Rome; Workshop on Capacity Development to Improve the Management of ABNJ, 18-21 May 2016, Grenada

Major topic(s) of capacity building: Strengthen and broaden cross-sectoral dialogue and policy coordination in the ABNJ, leading to improved implementation of ecosystem approaches

Methodology: Panel presentations, plenary and group discussion

Target participants: Ocean leaders from governments (including leaders in global negotiations), international organizations, civil society, and national and regional organizations (RFMOs, Regional Seas, LME programs, political regional groups)

No. of participants trained/served: At least 150

Budget: $317,500

Web address: http://www.fao.org/3/a-i5772e.pdf; http://www.fao.org/3/a-i7970e.pdf

Type of capacity building: Short-term training: 2015 ABNJ Regional Leaders Program, 15-21 January 2015, United Nations, New York and 2016 ABNJ Regional Leaders Program, March 21 to April 2, 2016, United Nations, New York

Major topic(s) of capacity building: Strengthen the capacity of leaders from developing countries and small island developing States (SIDS) at the regional and national levels to better address ABNJ resources and issues and to more effectively participate in global and regional ABNJ discussions

Methodology: Intensive course modules, participation in UN negotiations, meeting with UN Permanent Missions, presentations for Global BBNJ process.

Target participants: Leaders from national governments and/or regional organizations concerned with marine resource management from around the world

No. of participants trained/served: 44

Budget: $232,500

Web address: https://globaloceanforumdotcom.files.wordpress.com/2016/01/abnj-regional-leaders-program-brochure.pdf

Type of capacity building: High-level policy dialogues:

1. Cross-sectoral Policy Dialogue and Linking Global and Regional ABNJ Processes and Capacity Development in ABNJ held during the 3rd International Marine Protected Areas Congress (IMPAC 3), Marseille, France, October 21-25, 2013;
2. Side Event on Capacity Development and ABNJ: Regional and National Perspectives - Examples from Africa, Latin America and the Caribbean, Asia and the Pacific Islands, 21 January 2015, during 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, 20-23 January 2015;
3. Side Event on Regional and National Perspectives on Area-Based Management and Capacity Development Needs in Areas Beyond National Jurisdiction (ABNJ): Examples from Africa, Asia, Latin America and the Caribbean, and the Pacific Islands Regions, 30 March 2016 during the First Session of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ PrepCom 1), 28 March – 8 April 2016;
4. Side Event on Capacity Development for Area-Based Management in Areas Beyond National Jurisdiction: Needs, Experiences, Options, and Opportunities, 26 August 2016, during the BBNJ PrepCom 2, 26 August – 9 September 2016;
5. High-Level Policy Dialogue held on March 31, 2017 on "Ocean Scale Science for Effective Marine Governance," co-organized with the ATLAS project on the high seas during the BBNJ PrepCom 3, 27 March – 7 April 2017;
6. Side event held on July 17, 2017 on "Capacity Development in Areas Beyond National Jurisdiction (ABNJ): Experiences, Lessons, Possible Ways Forward during the BBNJ PrepCom 4, 10 – 21 July 2017.
7. Cross-sectoral Policy Dialogue and Linking Global and Regional ABNJ Processes and Capacity Development in ABNJ held during the 3rd International Marine Protected Areas Congress (IMPAC 3), Mar-

seille, France, October 21-25, 2013 (during project preparation)

8. UN Side Event on Oceans, Climate Change, and Blue Economy held on Feb 13, 2017, during the preparatory meeting for the UN Ocean Conference (15 and 16 February 2017)
9. Workshop on the Roadmap to Oceans and Climate Action (ROCA) on Advancing the Oceans and Climate Agenda for the Next Five Years held on May 22-23, 2017, UNESCO Paris, which involved many of the project partners as well as GEF
10. UN Side Event at the UN Ocean Conference (5-9 June 2017) on Oceans and Climate and Launch of the Roadmap to Oceans and Climate Action (ROCA), held on June 8, 2017, UNESCO, Paris

Major topic(s) of capacity building: Strengthen and broaden cross-sectoral dialogue and policy coordination in the ABNJ, leading to improved implementation of ecosystem approaches

Methodology: Panel presentations and discussion

Target participants: Representatives of UN Permanent Missions and government line agencies, IGOs, and civil society participating in UN fora on ABNJ and other international meetings

No. of participants trained/served: At least 551

Budget: $60,500

Web address: https://globaloceanforum.com/2017/07/26/side-event-on-capacity-development-in-abnj-at-bbnj-prepcom-4/

Type of capacity building: High-Level Dialogue and Global Media Forum Common Oceans: Why ABNJ Are Essential to People and Planet, Nausicaa, France

Major topic(s) of capacity building: Outreach to Media and the Public, showcasing the major issues facing the ABNJ as well as possible solutions to the issues

Methodology: High level sessions highlighted: The values and issues surrounding ABNJ; the Common Oceans Program experiences; discussions on solutions to challenges in ABNJ; and global media workshop with media representatives and ABNJ experts at the world's first-ever large-scale high seas aquarium and exhibit

Target participants: The meeting brought together high-level experts working on ABNJ as well as media practitioners

No. of participants trained /served: 85

Type of capacity building: Global Survey

Methodology: Assessing needs, gaps, regional and national perspectives on capacity development in ABNJ

No. of participants trained /served: 138

Title/Name of capacity building effort: Graduate course on ABNJ taught at the University of Delaware for Master's students

Type of capacity building: University course

Major topic(s) of capacity building: ABNJ

Methodology: Lecture and class discussion

Target participants: Graduate students at the University of Delaware College of Earth and Ocean, and Environment

No. of participants trained/served: Between 3 and 7 each semester

Other Information: Course taught by Dr. Biliana Cicin-Sain

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO (IOC/UNESCO)

Title/Name of capacity building effort: Ocean Biogeographic Information System (OBIS), through OceanTeacher Global Academy (OTGA)

Type of capacity building: Blended learning, classroom training, workshops, webinars, manuals, guideline, advising

Major topic(s) of capacity building: Biodiversity data management, standards and best practices, quality control, data publication, dissemination, data science, analysis, modelling

Methodology: Training material published on OceanTeacher e-Learning platform, pre-course assignments, theory combined with hands-on work. Post-course support. Train the trainers at HQ and face-to-face courses organized at OTGA Regional Training Centres

Target participants: Data and information managers, scientists

No. of participants trained/served: 270; See alumni http://iobis.org/training/alumni/

Budget: Average of 5 training courses per year; US$ 25,000/course; US$ 125,000 annually

Web address: www.iobis.org/training

Title/Name of capacity building effort: IODE/Ocean Teacher Global Academy (OTGA)

Type of capacity building: Short face-to-face courses (~5 days/30 hours long); courses may include blended learning (e.g., pre-course assignments)

Major topic(s) of capacity building: Ocean Data and

Information Management, Research Data Management, Marine GIS, Quality Management, Scientific Cruise Planning; supports CD activities from all IOC programmes, including HAB, MPR/ICAM, Tsunami, JCOMM; MSR/DOALOS: Marine Scientific Research

Methodology: Training course resources published on the OceanTeacher e-Learning platform, pre-course assignments, theory combined with hands-on work. Face-to-face courses take place at the (currently) 7 Regional Training Centres (RTCs); courses organised in several languages (including English, Spanish, French and Portuguese)

Target participants: (Marine) Data and Information managers, marine researchers, university students, etc.

No. of participants trained/served: Average 500 people trained/year

Budget: Not less than ~2 face-to-face courses/year/RTC: US$ ~300,000/year

Web address: www.oceanteacher.org; Alumni database: https://www.iode.org/index.php?option=com_oe&task=countryReports&report[type]=3

Title/Name of capacity building effort: Asia and Pacific: IOC Regional Training and Research Centers on Marine Biodiversity and Ecosystem Health (RTRC-MarBEST)

Type of capacity building: Two weeks training annually at the RTRC-MarBEST, with early-career scientists as target beneficiaries

Major topic(s) of capacity building: Traditional and molecular taxonomy, reef health monitoring, seagrass and mangrove ecology and management

Methodology: Training, and training through research (TTR). Training include pre-test, expert lectures, hands-on exercise and lab analysis, field sampling, and test. Some trainees were engaged in relevant regional research programs

Target participants: Early career marine biologists and PhD students, from the Asia and Pacific

No. of participants trained/served: RTRC-MarBEST was inaugurated in 2016 with two trainings conducted. Around 30 participants each.

Budget: Average of US$ 40,000/year (Indonesia), does not include the cost for engaging young scientists into research programmes

Web address: RTRC website under construction. Events, News coverage could be found at: http://iocwestpac.org

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Title/Name of capacity building effort: Asia and Pacific: Monitoring the ecological impacts of ocean acidification on coral reef ecosystems

Type of capacity building: One week-long training workshop (both at regional and national level), held on a rotation basis in Member States

Major topic(s) of capacity building: Seawater collection and handling for chemistry, Total Alkalinity (TA) and pH measurement, Autonomous Reef Monitoring Structures (ARMS) and Calcification Accretion Units (CAUs) recovery and processing

Methodology: Training through research: expert lectures, hands-on exercise and lab analysis, field sampling, development of Standard Operating Procedures, and SOPs demonstration in pilot sites.

Target participants: Marine chemists and biologists and PHD students, from the Asia and Pacific

No. of participants trained/served: ~150, since 2015

Budget: A total of four training workshops conducted. Average of US$ 30,000/workshop, does not include in-kind support

Web address: http://iocwestpac.org

Title/Name of capacity building effort: Asia-Pacific: National and regional training workshops, Harmful Algal Blooms

Type of capacity building: Normally one week training workshops or seminars

Major topic(s) of capacity building: Phytoplankton identification

Methodology: Training through research: expert lectures, hands-on exercise and lab analysis, field sampling.

Target participants: Marine biologists and PhD students, from the Asia and Pacific

No. of participants trained/served: Around 500 since early 1990s

Budget: US$ 25,000/year

Web address: http://iocwestpac.org

Title/Name of capacity building effort: Asia and Pacific: WESTPAC International Marine Science Conference, with biodiversity conservation as one of major themes

Type of capacity building: The largest marine science conference in the region, held once every three years

Major topic(s) of capacity building: All topics identified with common interests, related to marine biodiversity conservation

Methodology: Knowledge sharing and exchange, Young Scientist Travel Grant, Best Young Scientist Award

Target participants: All kinds of marine scientists, mainly from the region

No. of participants trained/served: A total of 10 times organized, with the recent one attended by more than 700 scientists, policy makers and resource managers

Budget: Unable to estimate the cost of each one

Web address: http://iocwestpac.org; http://iocwestpac10.cn

INTERNATIONAL SEABED AUTHORITY (ISA)

Title/Name of capacity building effort: ISA/Contractor Training, Endowment Fund for Marine Scientific Research (MSR), ISA Internship, International sensitisation seminars and outreach programs, publications

Type of capacity building: ISA/Contractor Training: Part of the contractual obligation of all contractors as provided for in UNCLOS. Endowment Fund for Marine Scientific Research (MSR): The Fund is used to provide financial assistance to institutions in involved in MSR in ABNJ. ISA Internship: This unpaid internship offers young professionals the experience to work in either the Office of Legal Affairs or the Office of Environmental Management and Marine Resources. Other: International sensitisation seminars and outreach programmes. Publications

Major topic(s) of capacity building: Legal (Law of the Sea); marine biology; marine environment, marine resources

Methodology: ISA Contractor Training: Each contractor is required to provide an equivalent of 10 training places in each 5-year period of its contract. Current and past training includes: at-sea training (on exploration cruises in ABNJ), fellowships (masters, PhD programmes), and internships with contractors, workshops and seminars. ISA Internship: The duration of the internships vary between 1 and 3 months. Publications: the ISA annually publishes briefing papers and technical studies on its work, workshops/seminars that it has organised or participated in. These publications are available online or, in the case of technical studies, printed copies can be ordered through Amazon.

Target participants: ISA Contractor Training: Qualified persons from developing member States;

Endowment Fund for Marine Scientific Research (MSR): Qualified persons from developing States or, for the benefit of scientists from developing States; ISA Internship: Young professionals

No. of participants trained/served: ISA Contractor Training: annual number of trainees: 30-40. Endowment Fund for Marine Scientific Research (MSR): The disbursements are subject to the sufficient income being generated by the fund. ISA Internship: Annual number of interns: 5-10

Budget: ISA/Contractor training: at the Contractor's cost. Endowment Fund for MSR: dependent on annual income (approx. $20,000 to $50,000 per year in recent years). ISA Internship: cost borne by interns

Web address: https://www.isa.org.jm/training-programme

PARTNERSHIPS IN ENVIRONMENTAL MANAGEMENT FOR THE SEAS OF EAST ASIA (PEMSEA)

Title/Name of capacity building effort: Regional Ocean Health Index Workshop

Type of capacity building: Training

Major topic(s) of capacity building: Ocean Health Index

Target participants: Integrated Coastal Management (ICM) sites, PEMSEA Network of Learning Centers (PNLC)

No. of participants trained/served: 36

Budget: $9,624

Title/Name of capacity building effort: Regional Training Workshop on Marxan with Zones and MAPS-MSA

Type of capacity building: Training

Major topic(s) of capacity building: MarxanZ, MAPS-MSA (spatial planning tools)

Target participants: ICM sites, PEMSEA Network of Learning Centers (PNLC)

No. of participants trained/served: 37

Budget: $30,796

Title/Name of capacity building effort: Regional ICM Training of Trainers Workshop

Type of capacity building: Training of Trainers

Major topic(s) of capacity building: ICM

Target participants: NOWPAP (non-country partner), PEMSEA Network of Learning Centers (PNLC), Russia ICZM practitioners

No. of participants trained/served: 34

Budget: $42,165

CIVIL SOCIETY (NGOS, FOUNDATIONS, ACADEMIC INSTITUTIONS)

GLOBAL OCEAN FORUM/UNIVERSITY OF DELAWARE WITH FINANCIAL SUPPORT FROM THE NIPPON FOUNDATION OF JAPAN, NATIONAL PARKS OF SINGAPORE, AND OTHER PARTNERS

Title/Name of capacity building effort: Project on Governing the Oceans Beyond National Jurisdiction: Multi-stakeholder Policy Analyses and Policy Dialogues for Improved Ocean Governance

Type of capacity building: Multi-stakeholder workshops; Strategic Planning Workshop on Global Oceans Issues in Marine Areas Beyond National Jurisdiction in the Context of Climate Change, January 23-25, 2008, Nice, France; Workshop on Ecosystems and Uses in Marine Areas Beyond National Jurisdiction, held on April 5, 2008 as part of the Fourth Global Conference on Oceans, Coasts, and Islands: Advancing Ecosystem Management and Integrated Coastal and Ocean Management by 2010 in the Context of Climate Change held in Hanoi, Vietnam, April 7-11, 2008; Workshop on Governance of Marine Areas Beyond National Jurisdiction: Management Issues and Policy Options November, 3-5, 2008, Singapore

Major topic(s) of capacity building: ABNJ

Methodology: Panel presentations and break-out group discussions

Target participants: Ocean leaders from governments, UN agencies and international organizations, NGOs, and industry and science groups concerned in ABNJ

No. of participants trained/served: At least 100

Web address: Submission to BBNJ Working Group on the development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction: https://globaloceanforumdotcom.files.wordpress.com/2013/05/globalforumsubmission-2ndadhocwgmeeting-april2008-red_0.pdf; Singapore Meeting report: https://globaloceanforumdotcom.files.wordpress.com/2013/05/singapore-workshop-executivesummary-2.pdf

GREENPEACE INTERNATIONAL

Title/Name of capacity building effort: The Greenpeace research laboratories at the University of Exeter

Type of capacity building: Education

Major topic(s) of capacity building: Toxicology, organic and inorganic analytical chemistry, biochemistry, and terrestrial and marine ecology

Methodology: Scientific research, lectures, supervision for students' projects

Target participants: University students (both undergraduate and postgraduate)

Web address: http://www.greenpeace.to/greenpeace/

Other Information: The laboratories provide scientific advice and analytical support to Greenpeace offices worldwide. Staff also contribute to taught lecture courses at undergraduate and postgraduate levels, and supervise final year undergraduate projects within the School of Biosciences.

GREENPEACE USA

Title/Name of capacity building effort: Research internship at the Greenpeace research team

Type of capacity building: Training

Major topic(s) of capacity building: Environmental issues including climate, energy, forests, toxics, and oceans

Methodology: Internship

Target participants: All people with diverse backgrounds, experience, and grassroots activists

Web address: https://www.greenpeace.org/usa/about/internships/research-internship-dc/

Other Information: The Greenpeace research team is responsible for strategic and tactical research to support Greenpeace campaigns and activities including the climate, energy, forests, toxics, oceans, and other campaigns.

INSTITUTE FOR ADVANCED SUSTAINABILITY STUDIES

Title/Name of capacity building effort: Potsdam Ocean Governance Workshop

Type of capacity building: Training

Major topic(s) of capacity building: Ocean governance

Methodology: Workshop

Web address: https://www.iass-potsdam.de/de/search?-search_for=Potsdam+Ocean+Governance+Workshop and https://www.iass-potsdam.de/de/node/1486

Other Information: The aim of this workshop is to provide a transdisciplinary platform to advance creative thinking and to put forward governance options that could feed directly into these processes.

Title/Name of capacity building effort: Opportunities for Strengthening Ocean Governance in the Southeast Atlantic

Type of capacity building: Training

Major topic(s) of capacity building: Ocean governance

Methodology: Workshop

Target participants: All stakeholders concerned about the ocean governance in the Southeast Atlantic

Web address: https://www.iass-potsdam.de/de/veranstaltungen/workshop-opportunities-strengthening-ocean-governance-southeast-pacific

Other Information: This workshop aims to bring together stakeholders within the region to discuss the current status and challenges of global and regional ocean governance, foster exchange, build new networks, and identify the key interests and challenges in ocean governance faced by the region.

Title/Name of capacity building effort: Other workshops including High Seas Governance in Western, Central and Southern Africa, Towards a Research Agenda for Ocean Governance, and Deep-Sea Mining: an uncertain future?

Type of capacity building: Training

Major topic(s) of capacity building: Miscellaneous including research in an area of ocean science and deep-sea mining

Methodology: Workshop

Target participants: All relevant stakeholders

Web address: https://www.iass-potsdam.de/de/node/2027; https://www.iass-potsdam.de/de/node/1964; https://www.iass-potsdam.de/de/node/1900

Other Information: These workshops take place irregularly.

INTERNATIONAL CHAMBER OF SHIPPING

Title/Name of capacity building effort: Training for personnel on ships operating in polar waters

Type of capacity building: Training

Major topic(s) of capacity building: Navigation in polar waters

Methodology: Training courses (two courses available: basic and advanced training)

Target participants: Masters, chief mates, and officers in charge of a navigational watch on ships operating in polar waters

Web address: http://www.ics-shipping.org/free-resources/employment-and-training/training

Other Information: This program is provided to meet the STCW training requirements for personnel on ships operating in polar waters. STCW: International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

Title/Name of capacity building effort: STCW training requirements for personnel on ships subject to the IGF Code

Type of capacity building: Training

Major topic(s) of capacity building: Service on ships subject to the IGF Code

Methodology: Training courses (two courses available: basic and advanced training)

Target participants: Masters, officers, ratings, and other personnel on ships subject to the IGF Code

Web address: http://www.ics-shipping.org/free-resources/employment-and-training/training

Other Information: This program is provided to meet the STCW training requirements for personnel on ships subject to the IGF Code. IGF Code: the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels

INTERNATIONAL OCEAN INSTITUTE

Title/Name of capacity building effort: Training Program

Type of capacity building: Training hundreds of young practitioners, particularly from developing countries and countries in transition, and contributes towards a growing global network of trained and empowered leaders fully conversant with the latest developments in ocean governance.

Major topic(s) of capacity building: Governance of the Global Ocean and the Global Ocean Policy Framework, The SDGs – The post-2015 Development Goals with special reference to SDG 14 concerning the Conservation and Sustainable Use of Oceans, Seas and Marine Resources for Sustainable Development, Deep Sea Bed Mining, Ocean Literacy, Ocean Diplomacy: fostering a cadre of ocean literate policy and decision-makers in ocean governance, Regulation of Marine Genetic Resources (MGRs) and the ongoing process in the elaboration of a legally binding international agreement on Areas Beyond National Jurisdiction (BBNJ), The EU and its work on issues in Areas Beyond National Jurisdiction, The protection of ocean biodiversity: Progress in the Discussions at the United Nations related to Marine Biological Diversity in ABNJ; Protecting the Marine Environment In Areas Beyond National Jurisdiction: a brief look at the legal framework for conservation and management of biodiversity in marine areas beyond

national jurisdiction, MPAs in Areas Beyond National Jurisdiction (case study: the experience of OSPAR countries in the Wider Atlantic; the Charlie Gibbs Fracture Zone", Small Island States and the challenges faced), Discussions towards an implementing agreement to UNCLOS on biodiversity in ABNJ

Methodology: Annual basis on International and regional levels. The Training syllabi emphasize the importance of viewing the ocean as a system with varied users and multiple, often competing and conflicting, uses. They recognize that ocean governance requires broad interdisciplinary skills, new institutional and legal infrastructures, and new forms of interaction between intergovernmental and non-governmental organisations and cooperation at the local, national and international levels. The syllabi core contents cover material in the fields of the law of the sea, the natural and social sciences, economics, policy making, related conventions and offer the opportunity to integrate new and emerging issues as well as regional matters of specific interest or concern. The training is delivered via classroom-based lectures, interactive discussions, field trips, simulations and exercises, individual participant presentations, and international round tables with guidance offered by expert faculty and supported through appropriate learning tools. Participants of IOI training courses are trained in managing human relations with the ocean in a sustainable manner. And, as ocean issues are complex and sometimes controversial, IOI training course programmes comprehensively convey cover cross-sectoral aspects of governance. Course participants are provided the tools necessary to negotiate controversial positions, to manage conflict situations, to engage in multilateral diplomacy and to apply policy making and good governance principles.

Target participants: Mid-career practitioners in ocean governance: scientists, policy makers, educators and decision makers.

No. of participants trained/served: Each of the 7 courses annually welcomes between 20-35 participants.

Budget: The IOI allocates an annual budget in excess of US$500,000 to support the courses directly and maintain the training infrastructure; additional funds from partners and in-kind support also contribute to this sum in varying proportions year on year.

Web address: https://www.ioinst.org/

INTERNATIONAL OCEAN INSTITUTE TRAINING CENTRE FOR LATIN AMERICA AND THE CARIBBEAN

Title/Name of capacity building effort: IOI Training Courses

Type of capacity building: The IOI Training Courses for Latin America and the Caribbean are planned to be offered each year in different countries of the Latin American region (that is: to be itinerant in the LAC region)

Major topic(s) of capacity building: Ocean Sciences, Ocean governance, Geoethics

Methodology: 120 lecture hours and activities, ideally during four weeks, with 6 hours per day of course activities.

The three core issues of Ocean Governance, Ocean Sciences, and Geoethics are designed as stand-alone modules that can be presented separately. The IOI-LAC-TC integrates and interlinks these issues within a common learning process in order to show how governance is linked with geoethics and underpinned by the scientific knowledge of the oceans.

"Learning by doing" pedagogic process. Depending on the profile of the participants, the TCs could be offered in English, Spanish, Portuguese, "Portunhol", and/or a blend; most of the text material will be in English.

Target participants: Young practitioners and scientists (20-40), with enough basic background not to be overly challenged in the theoretical issues.

Budget: Depending of the length of the Training Courses, between US$100,000 and US$150,000 per course, total in cash and in kind. Participants are not asked to pay any fees, all lecturers are pro bono, very limited financial support are available for participants, and in any case, support does not cover the full participant costs.

Web address: https://www.ioitclac.org/training-program/

Other Information: Lecturer' presentations and reading material are available free, online, at the IOIT-CLAC homepage

IOI MALTA TRAINING COURSE ON REGIONAL OCEAN GOVERNANCE

Title/Name of capacity building effort: Training Course accredited by the University of Malta as GSC 5101, GSC 5102 and GSC 5103

Major topic(s) of capacity building: Ocean governance, maritime law, marine resource management, environmental impact assessment considerations

Methodology: Lectures, field visits, ad hoc seminars on specific topics, group discussions and participants – all assessed through assignments and presentations delivered by the participants

Target participants: Mid-career participants hailing

from the Mediterranean, Black, Baltic and Caspian Seas

No. of participants trained/served: 20 each year, for the past 13 years

Budget: € 50,000-60,000

Web address: http://oceania.research.um.edu.mt/cms/ioicourse/

UNIVERSITY OF MALTA ACADEMIC PROGRAMME (MASTER'S IN APPLIED OCEANOGRAPHY)

Title/Name of capacity building effort: Master's Course Programme Study-Unit lectures within OMS 5001 and OMS 5005

Major topic(s) of capacity building: Ocean governance, maritime law, marine resource management, environmental impact assessment considerations

Methodology: Lectures. Assessed through final examination

Target participants: Postgraduate students (both Maltese and International)

No. of participants trained/served: 5-10

Budget: ~€ 20,000

Web address: https://www.um.edu.mt/science/geosciences/physicaloceanography/msc

INTERNATIONAL OCEAN INSTITUTE – SOUTH AFRICA TRAINING CENTRE (IOI-SA)

Title/Name of capacity building effort: Ocean Governance Training Programme for Africa

Type of capacity building: Four dedicated training workshops for the countries of West Africa (Abidjan Convention) that will roll out in 2019 – 2020. Region-wide capacity assessment for the project and developing a communications platform to raise awareness and expand the stakeholder interests in ABNJ issues. Socio-economic study related to ABNJ and support for partners (Birdlife International) in developing an ecological baseline for the ABNJ of the Southeast Atlantic. Policy Brief on capacity development for ocean governance

Major topic(s) of capacity building: ABNJ, BBNJ

Web address: www.ioisa.org

INTRAMERICAN ASSOCIATION FOR ENVIRONMENTAL DEFENSE (AIDA)

Title/Name of capacity building effort: Internship at the Inter-American Association for Environmental Defense

Type of capacity building: Training

Major topic(s) of capacity building: Human rights and the environment, freshwater preservation, climate change, marine protection, and environmental governance

Methodology: Internship and volunteer programs

Target participants: Decision makers in Latin and Central America

Web address: https://aida-americas.org/en/about-us/careers/join-our-internship-and-volunteer-program

Other Information: AIDA works to strengthen environmental governance and encourages public participation in the Americas. It educates local lawyers and provides informational materials to key decision makers.

ISLANDS FIRST

Title/Name of capacity building effort: Long-term capacity building and immediate capacity support for small island representatives at the United Nations (no specific title provided)

Type of capacity building: Training

Major topic(s) of capacity building: Support for small island nations to protect the Earth's climate and oceans

Methodology: Training and workshops

Target participants: Small island representatives at the United Nations

Web address: http://www.islandsfirst.org/mission/

Other Information: Islands First is working with small island developing States to advance their priorities on climate change, oceans, and sustainable development through supporting small island representatives at the United Nations in their effort to protect their ocean heritage and to build the resilience of their marine ecosystems.

NATURAL RESOURCE DEFENSE COUNCIL (NRDC)

Title/Name of capacity building effort: Internship at the Natural Resources Defense Council

Type of capacity building: Training

Major topic(s) of capacity building: Climate change, communities, energy, food, health, oceans, water, and the wildlife.

Methodology: Legal and non-legal interns

Target participants: Legal interns: students enrolled in law school; Non-legal interns: students studying subjects in relevant areas such as environmental issues

Web address: https://www.nrdc.org/careers

Other Information: NRDC helps train the next generation of environmental advocates. It hires students who possess the intelligence, skill, self-confidence, and maturity to take on enormous responsibility.

NAUSICAÁ NATIONAL SEA CENTRE

Title/Name of capacity building effort: A Journey in the High Seas

Type of capacity building: Exhibitions, conferences; A 5,000 m² permanent exhibition on the High Seas. A giant tank is the centerpiece of this exhibition, surrounded by films, exhibitions, and a high seas forum. The place which has been chosen is the Malpelo Island, off the Columbia coast; Nausicaá is the National Sea Center in France, but its level is European North.

Major topic(s) of capacity building: BBNJ, Blue economy, Blue society. The principal aim of this exhibition is Blue economy of the High Seas, highlighting the necessity of a sustainable use of the ocean, regarding the fragility of biodiversity.

Methodology: Exhibition; conferences, temporary exhibitions, press meetings, etc.

Target participants: General public, media

No. of participants trained/served: This new expansion of Nausicaá will allow an attendance of 1,000,000 visitors per year. 60% French, 20% Belgium, 15% British, 5% other foreigners.

Budget: The investment budget is US$ 85 million, + US$ 10 million in communications budget, equipment, etc.

Web address: www.nausicaa.fr

THE NIPPON FOUNDATION

Title/Name of capacity building effort: NF-IMLI Fellowship Program

Type of capacity building: Fellowships (Global, academic programs)

Major topic(s) of capacity building: Maritime Law/ Law of the Sea

Methodology: A nine month LL.M. program at the International Maritime Law Institute (Malta)

Target participants: Administrators dealing with maritime and ocean-related regulation, mainly in developing nations.

No. of participants trained/served: Around 10 students each year. As of March, 2018, 152 fellowships have been provided.

Budget: ~ US$ 8,500,000 (from 2003)

Web address: https://www.nippon-foundation.or.jp/en/what/scholarships/maritime/ ; http://www.imli.org/programmes-and-courses/llm-programme

Title/Name of capacity building effort: NF-GEBCO Training Project

Type of capacity building: Funding for obtaining a Postgraduate Certificate in Ocean Bathymetry at the University of New Hampshire, USA (Global, academic programs)

Major topic(s) of capacity building: Ocean Floor Mapping

Methodology: A one year postgraduate course at the University of New Hampshire focused on the creation of the General Bathymetric Chart of the Oceans (GEBCO) series plotting the world's sea floors. The work of GEBCO continues through the collaborative efforts of IHO and UNESCO.

Target participants: Government officials/ scientists specializing in ocean bathymetry

No. of participants trained/served: Around six students every year. As of March, 2018, 78 fellowships have been provided.

Budget: ~ US$ 9,100,000 (from 2003)

Web address: https://www.gebco.net/training/training_programme/

Title/Name of capacity building effort: NF-POGO Centre of Excellence in Observational Oceanography

Type of capacity building: Fellowship (Global, academic programs)

Major topic(s) of capacity building: Global Ocean Observation. Integrated, multi-disciplinary oceanography.

Methodology: The training program hosted by the Bermuda Institute of Ocean Sciences until 2012, and currently hosted by the Alfred Wegener Institute for Polar and Marine Research (Germany)

Target participants: Trainees from emerging and developed countries. Priority will be given to young researchers near the outset of their careers.

No. of participants trained/served: Ten scholars per year. As of March, 2018, 80 fellowships have been provided.

Budget: ~ US$ 5,600,000 (from 2003)

Web address: http://www.ocean-partners.org/centre-of-excellence

Title/Name of capacity building effort: NF-SIRC Fellowship

Type of capacity building: Fellowship (Global, academic programs)

Major topic(s) of capacity building: Wellbeing of seafarers. (Research on seafarers, with an emphasis on occupational health and safety from a social science perspective).

Methodology: A one year Master's program followed by a three year PhD program.

Target participants: Researcher with graduate academic backgrounds

No. of participants trained/served: About 3 researchers each year. As of March, 2018, 37 fellowships have been provided.

Budget: ~ US$ 6,800,000 (from 2003) (Program completed in 2017)

Web address: http://www.sirc.cf.ac.uk/SIRC-NF_Home.aspx

Title/Name of capacity building effort: NF-UN Partnership Training Program on Ocean Affairs and the Law of the Sea

Type of capacity building: Fellowship (Global, academic programs)

Major topic(s) of capacity building: Global Ocean Governance

Methodology: A nine month course which focuses on practical training and coordinated research with partner institutions around the world.

Target participants: Administrators and researchers from mainly developing nations

No. of participants trained/served: 10 administrators and researchers each year. As of March, 2018, 144 fellowships have been provided.

Budget: ~ US$ 22,200,000 (from 2003)

Web address: http://www.un.org/depts/los/nippon/

Title/Name of capacity building effort: NF-ITLOS Fellowship Program

Type of capacity building: Fellowship (Global, academic programs)

Major topic(s) of capacity building: International Maritime Dispute Settlement

Methodology: Advanced legal training on the peaceful resolution of international maritime disputes

Target participants: Government officials, diplomats engaging in maritime (legal) policies

No. of participants trained/served: Around eight scholars each year

Budget: ~ US$ 2,800,000 (from 2006)

Web address: https://www.itlos.org/the-registry/training/itlos-nippon-foundation-capacity-building-and-training-programme

Title/Name of capacity building effort: Nereus Program

Type of capacity building: Fellowship (Global, academic programs)

Major topic(s) of capacity building: Interdisciplinary Scientific Prediction of the Future State of the World's Oceans

Methodology: Joint academic research as well as public awareness raising activities

Target participants: Researchers in doctorate programs as well as post-doctorate researchers

No. of participants trained/served: As of March, 2018, 28 fellowships have been provided

Budget: ~ US$ 10,000,000 (from 2010)

Web address: http://www.nereusprogram.org/

Title/Name of capacity building effort: NF-IHO CHART Program

Type of capacity building: Fellowship (Global, training sessions)

Major topic(s) of capacity building: Maritime Law/ Law of the Sea

Methodology: A 15-week training course on preparing electronic nautical charts, hosted by the United Kingdom Hydrographic Office

Target participants: Hydrographer/cartographer in Navy or relevant authorities

No. of participants trained/served: 6-7 fellowships each year. As of March, 2018, 57 fellowships have been provided.

Budget: ~ US$ 1,300,000 (from2008)

Web address: **http://www.iho.int/mtg_docs/CB/Special-Projects/Webpage-JCBP/CHART_outline.html**

OCEAN CARE

Title/Name of capacity building effort: Ocean noise workshop

Type of capacity building: Training

Major topic(s) of capacity building: Ocean noise

Methodology: Two-day workshop on ocean noise to promote understanding towards the complexity of underwater noise management and mitigation

Target participants: Governments, international organizations, scientists, and civil society organizations

Web address: https://oceancare.org/wp-content/uploads/2016/07/Statement_L%c3%a4rm_UN_Nordt-

vedt-Reeve_EN_2016-1.pdf; https://www.oceancare.org/en/noise-workshop/

Other Information Following are 16 recommendations made in the year 2017 workshop: 1. A precautionary approach; 2.UN Open-ended Informal Consultative Process on the Oceans and the Law of the Sea; 3. Noise budget; 4. Cumulative impacts; 5. Strategic Environmental Assessments (SEAs) and Environmental Impact Assessments (EIAs); 6. The Convention on Migratory Species (CMS) Noise EIA Guidelines; 7. Limiting number and time frames of seismic surveys; 8. Best-available quieting technologies; 9. Previous, simultaneous, on-going, and planned activities; 10. Review of SEAs and EIAs; 11. Spatial and area based management; 12. Subsidies; 13. Monitoring survey areas; 14. Best available technology and best environmental practice; 15. Knowledge transfer; 16. Training and capacity

OCEAN POLICY RESEARCH INSTITUTE, SASAKAWA PEACE FOUNDATION

Title/Name of capacity building effort: WMU Sasakawa Fellowship

Type of capacity building: Fellowship

Major topic(s) of capacity building: High level courses in maritime affairs

Methodology: A Master's course

Target participants: Mainly students from developing nations

No. of participants trained/served: Around 25 scholars per year (611 fellows since 1987)

Budget: $21,147,757 and € 4,459,000 from 1987 to 2017

Web address, if available: http://www.wmujapan.net/

PEW CHARITABLE TRUSTS

Title/Name of capacity building effort: The Pew marine fellows program

Type of capacity building: Fellowships

Major topic(s) of capacity building: Marine conservation

Methodology: Three-year fellowships aimed to complete an original, research-based marine conservation project

Target participants: Midcareer professionals working in an area of marine conservation

Budget: $150,000 grant per scientist

Web address: http://www.pewtrusts.org/en/projects/marine-fellows/about

Other Information: The Pew Fellows Program in Marine Conservation awards fellowships annually to midcareer professionals whose future contributions to marine conservation will be significantly enhanced by their Pew-funded projects.

TARA EXPEDITIONS FOUNDATION

Title/Name of capacity building effort: Ocean plankton, climate and development project

Type of capacity building: Training

Major topic(s) of capacity building: Oceanography, specifically study related to ocean plankton

Methodology: Training of skills needed in research

Target participants: Scientists in developing countries

Budget: € 6 million euros from the scientific institutions of the Tara Oceans program and € 2 million from public funds of the French Fund for Global Environment

Web address: https://oceans.taraexpeditions.org/en/m/science/cooperation-developpement/

Other Information: This is a four-year project started in 2016 to train young researchers from developing countries in European laboratories. This project also aims to share the past experience and specific expertise among young scientists in both developed and developing countries and build a network among them to enhance collaboration.

VIETNAM NATIONAL UNIVERSITY

Title/Name of capacity building effort: Program of MSc training in Law of the Sea and Ocean Governance and Management

Type of capacity building: Academic course

Major topic(s) of capacity building: Advanced training on UNCLOS, Vietnam Law of the Sea and marine policy, Marine sociology and factual history, Sea-use manangement, Marine resources management (natural and human), Marine regime and management tools

Methodology: Lecture, Group excercies, Thematic essay, Field trip, Breakout discussion

Target participants: MSc students

No. of participants trained/served: 20 students per year

Budget: 70% from Government and 30% from student contribution

Title/Name of capacity building effort: Bien Dong Sea (the South China Sea) conferences

Type of capacity building: Shared and open forum (every two years)

Major topic(s) of capacity building: Selected topic tailored to each conference

Methodology: Presentations, Panel discussion, Group discussion, Proceedings/Book

Target participants: Public servants, national and international scholars

No. of participants trained/served: ~100 participants/ conference

Budget: Bien Dong Foundation

Title/Name of capacity building effort: ARF Workshops on Maritime Security

Type of capacity building: Regional forum and workshop in Southeast Asia (every two years)

Major topic(s) of capacity building: Navigation freedom and security, Marine fisheries security, Marine environmental and ecological security, Regional cooperative initiatives

Methodology: Keynote speakers, Panel session, Group breakdown, Recommendations

Target participants: Diplomatic officials from the US, China and host-country, regional and international experts and scholars

No. of participants trained/served: ~ 50

Budget: Asia Foundation

WORLD MARITIME UNIVERSITY

Title/Name of capacity building effort: Two MSc. courses in the Ocean Sustainability, Governance and Management specialization

Type of capacity building: Global Ocean and Coastal Governance (8 EC), and Multilateral Diplomacy and Negotiation (4 EC) address ABNJ and the nascent BBNJ negotiations within the curriculum; Maritime Law and Policy specialization also addresses ABNJ and BBNJ in their core curriculum. Global level with a focus on developing countries.

Major topic(s) of capacity building: Law of the Sea and ocean governance, Maritime jurisdictions, High Seas and the Area, Maritime delineation and delimitation, Governance framework for international diplomacy, International dispute resolution, Advocacy and negotiation skills, Climate change and the ocean.

Methodology: The Global Ocean and Coastal Governance course provides an understanding of the international legal framework for the ocean under UNCLOS; the meaning and implementation of ocean-related conventions, protocols, agreements, directives and regional ocean governance approaches, and the commitments made by the global community, focusing on the 2030 Agenda for Sustainable Development. To consider and explore the roles of ocean-related UN system bodies, other international organizations and non-state institutions, and business interests. The objective of the Diplomacy and Negotiations course is to build technical capacity and develop skills that allow students to prepare and participate effectively in international negotiations and multilateral diplomacy in support of national and regional interests. The focus of the programme extends to regional and sub-regional co-operative strategies with a view to maximising governance and management strategies for the sustainable use of offshore resources. The course is aimed at skills development including the identification of the causes of disputes and the opportunities for collaboration, communication, stakeholder engagement, negotiation strategies, conflict management and resolution, dispute settlement and consensus building.

Target participants: MSc programme in Maritime Affairs students (average of 130/year); early- to mid-career professionals from 60 countries, mostly developing; receive an introduction to this topic in the Foundation term of WMU 14-month programme. Depth is provided in two MSc. specializations – Maritime Law and Policy and Ocean Sustainability, Governance and Management – to an average of 35 students per year.

No. of participants trained/served: The student body is about 130 persons, with 35 students specializing in two areas.

Budget: Full fellowship fee of $57,700/student; more than half of WMU students are funded directly by their own companies, governments or national funding agencies; a limited number of fellowships to provide financial support to students are given each year by a range of international donors, for students from developing countries; a limited number of Sasakawa Fellowships are open to government employees from developed countries.

Web address: https://www.wmu.se/docs/academic-handbook

WORLD WILDLIFE FUND (WWF)

Title/Name of capacity building effort: Professional Development Grants

Type of capacity building: Grants

Major topic(s) of capacity building: Environmental issues and conservation. No specific reference to ocean-related issues so further examination needed.

Methodology: Grants for short-term, non-degree training including short courses, certificate trainings, or conferences among other training opportunities

Target participants: Midcareer conservationists from

one of the following countries: Belize, Bhutan, Bolivia, Cambodia, Cameroon, Central African Republic, Colombia, Democratic Republic of Congo, Ecuador, Fiji, French Guiana, Gabon, Guatemala, Guyana, Honduras, Indonesia, Kenya, Laos, Madagascar, Malaysia, Mozambique, Myanmar, Namibia, Nepal, Papua New Guinea, Paraguay, Peru, Republic of Congo, Solomon Islands, Suriname, Uganda, Vietnam, Zambia

No. of participants trained/served: More than 900 grants awarded in total

Budget: Up to $6,500 per applicant

Web address: https://www.worldwildlife.org/projects/professional-development-grants

Other Information: Professional Development Grants provide support for mid-career conservationists to pursue short-term, non-degree training to upgrade their knowledge and skills.

Title/Name of capacity building effort: Conservation Workshop Grants

Type of capacity building: Grants

Major topic(s) of capacity building: Environmental issues and conservation. No specific reference to ocean-related issues, so further examination needed.

Methodology: Grants for NGOs to support their training programs for communities, stakeholders, park guards, and others on local and regional conservation issues

Target participants: NGOs working in the WWF priority regions in select countries in Africa, Asia, and Latin America.

No. of participants trained/served: No information

Budget: Up to $7,500 per applicant

Web address: https://www.worldwildlife.org/initiatives/conservation-workshop-grants

Other Information: Conservation Workshop Grants fund organizations to train communities, stakeholders, park guards, and others on local and regional conservation issues.

Title/Name of capacity building effort: Russell E. Train Fellowships

Type of capacity building: Fellowships

Major topic(s) of capacity building: Environmental issues and conservation. No specific reference to ocean-related issues.

Methodology: Fellowships to support individuals pursuing a master's or doctoral degree in conservation

Target participants: Students willing to pursue the higher degree (Master's and PhD) in conservation-related fields and conduct research in their home countries or region. Students are mainly from selected countries in Africa, Asia, and Latin America.

No. of participants trained/served: Over 740 individuals since 1994

Budget: Two to three-year funding, up to $30,000 per year and per student

Web address: https://www.worldwildlife.org/projects/russell-e-train-fellowships

Other Information: WWF supports committed conservationists from target countries to receive financial support for their studies and field research. Applicants can apply to attend any university around the world and must return to their home countries to work in conservation for at least two years after completing their degree.

For further information about the Policy Brief and related capacity development efforts, please contact

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