ISSUE 10 / JANUARY 2025

# BLUE SECURITY

## A MARITIME AFFAIRS SERIES

**Capacity-building under the BBNJ Agreement: Benefits, Opportunities and Implementation Challenges for Southeast Asia**

Dr Sarah Lothian, Dr Zaki Mubarok, Dr Ahmad Almaududy Amri, and Jacqueline Joyce Espenilla

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## MARITIME AFFAIRS SERIES EDITORS

### Professor Bec Strating

Bec Strating is the Director of La Trobe Asia and a Professor of Politics and International Relations at La Trobe University, Melbourne. Her research focuses on maritime disputes in Asia and Australian foreign and defence policy. She has an extensive track record in writing research publications including three monographs, most recently "Defending the Maritime Rules- Based Order" (2020). She is currently a non-visiting fellow at the Royal Australian Navy's Seapower Centre, a member of the East West Centre Council on Indo-Pacific Relations, and chair of the Women in International Security Australia's steering committee. Bec serves on the editorial boards of the Australian Journal of International Affairs and Journal of Maritime and Territorial Studies.

### Dr Troy-Lee Brown

Troy Lee-Brown is a researcher in regional security, maritime security and international relations with a focus on the Indo-Pacific. He is currently the editor of the 'Black Swan Strategy Paper' and the project manager for 'Blue Security', a joint DSI-La Trobe Asia-Griffith Asia Institute-UNSW project which focuses on issues of maritime security in the Indo-Pacific. Troy has authored several journal papers with a focus on security issues in the Indo-Pacific, regionalism and maritime security. His research interests include the Indo-Pacific, India, Japan, maritime security, regionalism and climate change.

## PRODUCTION COORDINATOR

### Kate Clayton

Kate Clayton is a Senior Coordinator (Programs & Research) at La Trobe Asia. Her research areas include Australia, China, the Pacific Islands and the United States. Kate is interested in climate change, geopolitics and conceptions of security in policymaking. For Blue Security, Kate manages the early career researchers' program and is the publication production coordinator. Formally, Kate was a sessional academic in international relations at La Trobe University and the University of Melbourne. She is an alumnus of the U.S. State Department's International Visitor Leadership Program, participating in program on enhancing regional maritime governance in the Quad.

## MARITIME AFFAIRS SERIES AUTHORS

### Dr Sarah Lothian

Dr. Sarah Lothian is a Senior Lecturer and Academic Barrister at the Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong. Sarah decided to embark upon a career in Academia after spending 12+ years in the legal profession. In 2021, Sarah graduated with her PhD from the University of Sydney, where she also completed her Bachelor of Arts/ Law (Honours) degree. Sarah has also completed a Masters degree in Maritime Law (With Distinction) at the University of Nottingham. Sarah's book, *Marine Conservation and International Law: Legal Instruments for Biodiversity Beyond National Jurisdiction* published by Routledge in 2022, provides a comprehensive assessment of the BBNJ negotiations and analyses each of the four elements of the BBNJ package deal. Her most recent publications include 'The BBNJ Agreement: Through the Prism of Deep-Sea Vulnerable Marine Ecosystems' published in Ocean Development and International Law;' 'Transnational Maritime Environmental Crime and the BBNJ Agreement' in Frontiers in Conservation Science and a book chapter entitled 'International Cooperation: The Linchpin to the Successful Implementation of the BBNJ Agreement' published in the Palgrave Handbook of Environmental Policy and Law. Sarah's research expertise involves multi-faceted aspects of international law, ocean governance and marine environmental law and her teaching portfolio encompasses core areas of the law of the sea as well as specialized electives that align with her areas of research such as marine resources law, maritime regulation and enforcement and biodiversity law.

### Dr Zaki Mubarok

Zaki shapes global maritime security and sustainable fisheries policies and practices through his work at national and international planes. He is motivated by a deep commitment to contribute a prosperous, stable, and sustainable Indo-Pacific Region based on international legal order. Zaki is a research fellow of Center for Ocean Sustainable Policy, University of Indonesia and officer of Legal Department of the Ministry of Marine Affairs and Fisheries of Indonesia as Coordinator for Law of the Sea and Treaties. In his capacity, he is a lawyer and delegates to the bilateral and multilateral negotiations such as BBNJ, RFMO, COFI, IORA, and WTO on Fisheries Subsidies. The issues he is focusing on relate to IUU fishing, maritime delimitation, fisheries crimes, BBNJ, Indo Pacific, maritime security, environmental law, UNCLOS, RFMO, and ocean affairs in general. He had also an experience as consultants on policy and legal aspects of marine affairs and currently part of government project. He is now appointed as a member of the UN Pool of Experts for the World Ocean Assessment III (UN Regular Process) and expert of Global Initiative against Transnational Organized Crime. He holds a doctoral degree from ANCORS, University of Wollongong and UN Nippon Fellowship alumnus at UNDOALOS, New York and Nelson Mandela University, South Africa. Previously, he earned Master degree from the University of New South Wales, Australia in the subject of international law and international relations. Both master and doctoral degrees were obtained through scholarship program by Australia Government. As an academia, he contributes to various journal and nationwide newspapers articles.

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## MARITIME AFFAIRS SERIES AUTHORS

### Dr Ahmad Almaududy Amri

Ahmad Almaududy Amri holds a Doctorate degree (Law of the Sea) from ANCORS, the University of Wollongong, Australia. He is a lawyer by training, having finished his Bachelor of Law (International Law) from the University of North Sumatra, Indonesia. He holds two master's degrees, a Master of Laws degree (Business Law) from the Gadjah Mada University and a Master of International Relations degree from the University of Indonesia.

Mr. Amri was an Adviser on the United Nations Reform, Budget and Legal Affairs Team in the Office of the President of the 75th session of the General Assembly. He was dealing with Security Council Reform; UN Development Reform; and matters related to the Law of the Sea. Additionally, he served as a focal point for the Non-Alignment Movement (NAM) and Asia-Pacific Group.

Mr. Amri is a diplomat from Indonesia. He joined the Ministry of Foreign Affairs of the Republic of Indonesia in 2009, and served in various positions at the Directorate of Legal Affairs; the Research and Policy Planning Agency; and the Directorate of Legal Affairs and Territorial Treaties. He was formerly a junior advocate at the MR&P Law Firm in Jakarta.

### Jacqueline Joyce Espenilla

Jacqueline Espenilla is an Assistant Professor at the University of the Philippines (U.P.) College of Law as well as a Research Fellow at the U.P. Institute for Maritime Affairs and Law of the Sea. She is the current Chairperson of the International Law Department of the Philippine Judicial Academy and a consultant of the National Security Council. She also regularly serves as a resource person for the Department of Foreign Affairs on maritime issues, and was the Legal Adviser of the Philippine Delegation to the BBNJ Treaty negotiations. Prior to her current appointments, she was a Senior Attorney at the Philippine Department of Justice under the Office of the Secretary, and a Legal Research Consultant at the Asian Development Bank Office of the General Counsel.

Asst. Prof. Espenilla completed resident research fellowships at the United Nations Division for Ocean Affairs and Law of the Sea in New York, Columbia Law School, and at the University of Tokyo Faculty of Law. She received her Master of Laws from Harvard Law School, and her J.D. and B.A. from the University of the Philippines. She is currently working on her doctoral dissertation at Utrecht University School of Law where she is a PhD Candidate at its Faculty of Law, Economics, and Governance.

# INTRODUCTION

On 19 June 2023, member States of the United Nations adopted, by consensus, the Agreement 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.[1] This instrument is more commonly known as the BBNJ Agreement and is the third implementing agreement to the 1982 *United Nations Convention on the Law of the Sea (LOSC)*.[2] The adoption of the BBNJ Agreement marks a pivotal turning point in the law of the sea by addressing regulatory, governance and institutional gaps and deficiencies in the existing international law framework whilst providing 'a vital platform to improve integrated management of a changing ocean and supporting collaboration across regions and sectors to sustain marine ecosystems,'[3] including in the waters of Southeast Asia.

The Southeast Asia region is one of the most important maritime spaces in the world in terms of marine biodiversity.[4] The region harbours the largest and most diverse mangroves,[5] is a hotspot of global seagrass diversity,[6] and hosts a third of the world's coral reefs.[7] The waters of Southeast Asia also account for 80% of global aquaculture (contributing nearly one quarter of global seafood production),[8] and are the conduit for 90% of world trade through shipping.[9] As ocean health plays an incredibly vital role in Southeast Asia, it seems an appropriate time to consider the benefits and opportunities the BBNJ Agreement could bring to the region.

In a nutshell, the BBNJ Agreement lays out a process for State Parties (either individually or collectively) to establish area-based management tools, including large-scale high seas marine protected areas.[10] This could play a critical role in achieving the Kunming-Montreal Biodiversity Pact to protect at least 30% of marine habitats by 2030.[11]

The BBNJ Agreement also establishes a sophisticated access and benefit sharing regime for monetary and non-monetary benefits derived from marine genetic resources originating from areas beyond national jurisdiction.[12] In addition, it contains a clear set of rules and thresholds for conducting environmental impact assessments.[13] Additionally, and most importantly for the purposes of this paper, it provides a strong framework between State parties when it comes to capacity-building, technology transfer and technical assistance.[14]

Part V of the BBNJ Agreement is completely devoted to the issue of capacity-building and the transfer of marine technology (CBTMT). As greater scientific knowledge of areas beyond national jurisdiction will be essential to ensure the long-term protection of marine biodiversity, it was acknowledged very early on in the BBNJ negotiation process that innovative mechanisms and tools would be required to promote cooperation and coordination for marine scientific research.[15] In turn, this would improve our understanding of the deep-sea environment and facilitate better informed policy and decision-making at the national, regional and global levels.[16] BBNJ negotiators also recognised that these innovative mechanisms would need to be underpinned by a duty to cooperate.[17]

The 2023 ASEAN Blue Economy Framework encourages cooperation and the strengthening of ASEAN member States' capacity to maximise the sustainable use of maritime spaces. The Framework also recognises a number of key areas within the Southeast Asia region which would benefit from further enhancement, including cooperation to address marine conservation, technical cooperation in marine science collaboration, research and development, as well as capacity-building in ocean-related issues.[18] Significantly, these key areas align with the purposes, principles and philosophy behind the development of the BBNJ Agreement and in particular, the capacity-building framework enshrined in Part V of the instrument. One of the overriding objectives of Part V is to develop the marine scientific and technological capacity of States, particularly developing States, with respect to the conservation and sustainable use of marine biodiversity.

This paper explores the BBNJ Agreement's capacity-building framework from the perspective of two countries, Indonesia and the Philippines, and considers how its modalities and cooperative mechanisms and tools could bring unprecedented benefits and opportunities, but also implementation challenges to these countries individually, and more broadly to the Southeast Asia region as a whole.

# SOUTHEAST ASIA – A STRATEGIC MARITIME SPACE FOR MARINE BIODIVERSITY

Southeast Asia is one of the most important areas for marine biodiversity on the planet, home to a third of the world's coastal and marine habitats.[19] The region plays host to 4 of the 25 global biodiversity hotspots and three of the 17 global megadiverse countries (Indonesia, the Philippines and Malaysia).[20] It is therefore unsurprising that the waters of Southeast Asia harbour some of the world's most diverse marine ecosystems, including the Coral Triangle. Stretching across six countries in Southeast Asia and the Pacific,[21] the Coral Triangle is considered to be the most biologically complex marine ecosystem on Earth,[22] home to 76% of all known coral species in the world.[23] Marine ecosystems in Southeast Asia support a vast array of species, from tiny plankton to large marine mammals. The complex interactions between these species help maintain ecological balance and resilience, ensuring the health and productivity of the marine environment.

Southeast Asia also relies heavily on marine resources for economic activities and the ocean economy constitutes a 20% share of GDP, with an estimated 625 million people in the region relying on the ocean for their livelihoods.[24] For example, fisheries employ more than 30 million people in ASEAN nations[25] and rich marine biodiversity supports robust fish stocks and other seafood resources. For many communities in Southeast Asia, fish and other aquatic products are the primary source of animal protein.[26] A productive and diverse marine ecosystem thereby ensures the availability of various species that are crucial for local diets and food security.

Having said that, marine biodiversity in Southeast Asia faces several threats due to natural and anthropogenic factors. These threats impact the health of marine ecosystems and the species they support. Overfishing depletes fish stocks and disrupts marine ecosystems.[27] Many fish species are targeted beyond sustainable levels, leading to population declines and imbalances in the marine food web.[28] Destructive fishing practices such as blast fishing (i.e. the use of explosives), electrofishing, and cyanide fishing (i.e. the use of chemicals and poisons to stun fish) cause extensive damage to coral reefs and other marine habitats.[29]

Pollution from land-based sources, including agricultural runoff, industrial discharge, and plastic waste can also contaminate the waters of Southeast Asia. Anthropogenic litter poses a particular environmental concern for marine biodiversity,[30] with plastics accounting for 80% of all debris from surface waters to deep-sea sediments.[31] The impacts of marine litter on species include suffocation and entanglement as well as ingestion, leading to health problems and mortality.[32] Pesticides, heavy metals, and other chemicals can also disrupt marine life by contaminating water and sediment, affecting species health and reproductive rates.[33]

Another significant threat to marine biodiversity is increased sea temperatures. A warming ocean causes thermal stress that contributes to coral bleaching, which in turn weakens coral reefs and disrupts the functioning of marine ecosystems.[34] Many species are sensitive to temperature changes and may face extinction if they cannot adapt or migrate to cooler waters.[35] Increased carbon dioxide levels in the atmosphere lead to ocean acidification, which affects the ability of marine organisms, such as corals and shellfish, to form calcium carbonate structures.[36] This disrupts marine ecosystems and food webs. Rising sea levels also threaten coastal habitats, including mangroves, saltmarshes and seagrass beds, which are critical habitats for many marine species.[37]

Countless activities and initiatives have already been undertaken or are currently underway in the Southeast Asia region in an effort to breathe life into vital marine ecosystems and manage coastal resources. One strategy has been to conserve important habitats through the establishment of marine protected areas.[38] For example, on 6 June 2024 the ASEAN Centre for Biodiversity (ACB) and the United Nations Development Programme (UNDP) in collaboration with Indonesia, the Philippines and Thailand launched a joint marine conservation project entitled *Effectively Managing Networks of Marine Protected Areas in Large Marine Ecosystems in the ASEAN Region.* At the launch of this project, the ACB Executive Director Theresa Mundita Lim expressed the view that the 'connectivity of the ASEAN seas presents an opportunity for enhancing marine and coastal conservation through the MPA networks and through programmes that address various threats to coastal and marine ecosystems.'[39]

However, the legal and policy framework in place to protect marine biodiversity in Southeast Asia faces several gaps and limitations that hinders effective conservation and sustainable management. Although many countries in Southeast Asia have established marine protected areas, the total area covered is often insufficient compared to the scale of the threats. Currently, approximately 4% of coastal and marine areas in Southeast Asia fall under formal protection, 'which lags behind the global average of about 8 per cent.'[40] This figure also falls short of the Aichi Biodiversity Target 11 and the 30 by 30 Initiative.[41] Many of the marine protected areas that have been established in the waters of Southeast Asia are small, isolated, or poorly managed, limiting their effectiveness in protecting marine biodiversity and essential ecosystem services. Even when marine protected areas are established, enforcement and management can be weak. For instance, in a 2002 study, the management of 332 marine protected areas in the Southeast Asia region was assessed and only 14% were rated as effectively managed, with 37% found to have inadequate management.[42] Other challenges, including a lack of resources, insufficient training, and inadequate monitoring can also hinder the overall effectiveness of marine protected areas in the region[43] and result in "paper parks", i.e. protected areas that 'exist on paper but lack adequate management and enforcement in practice.'[44]

Limited capacity for regular monitoring and assessment of marine ecosystems means that changes and threats can go undetected or unaddressed in a timely manner. Inadequate technology and resources for monitoring marine environments and enforcing regulations can also lead to gaps in detection and response to illegal activities and environmental changes. For example, a lack of monitoring resulted in extensive illegal fishing in the no-take-zone of the Komodo National Park, nestled in Indonesia's Lesser Sunda Islands within the Coral Triangle.[45] As a result of lapses in monitoring and enforcement between 2003 and 2005 there were abundance declines among targeted commercial fish species in the Komodo National Park, which are estimated to take decades to restore.[46] Inadequate infrastructure, such as a lack of research facilities, marine patrol vessels, and conservation centres, can also impede the ability to manage and protect marine areas effectively. Traditionally, efforts to prevent illegal fishing and other prohibited activities in marine protected areas have relied upon aircraft and patrol vessels.[47] However, this often proves expensive for even the wealthiest of nations. Managing large and remote marine areas can be logistically challenging, particularly in countries with extensive coastlines and numerous islands. This is particularly relevant in the context of Southeast Asia, which hosts some of the most extensive coastlines in the world and the largest archipelagic state.

Aside from monitoring and enforcement challenges, there are also significant gaps in scientific knowledge about marine biodiversity in the waters of Southeast Asia, including the distribution, population status, and ecological roles of many species.[48] As accurate and comprehensive data is essential for monitoring, assessment, and informed decision-making, its lack can impede the development of informed conservation strategies and management practices in the region. For example, many countries are still in the process of developing the necessary capacity to address climate-driven impacts on marine ecosystems. This includes designing and implementing adaptation strategies and building resilience in marine environments. As Trebilco et al. argue, 'proactive and coordinated action to mitigate and adapt to climate change will be essential for achieving the healthy, resilient, safe, sustainably harvested and biodiverse ocean that the UN Decade of Ocean Science and sustainable development goals seek.'[49] However, developing and implementing adaptation measures requires significant resources and expertise, which is currently lacking in some ASEAN countries. Notably, the 2021 ASEAN State of Climate Change Report underscored the importance of raising capacities on climate science in the Southeast Asia region and the need to significantly boost ASEAN member states' access to knowledge and technology transfer on key priority areas, including adaptation and mitigation.[50]

Given the significance of marine biodiversity to Southeast Asia and the threats posed to its rich abundance of species and ecosystems, it is little wonder Indonesia, the Philippines, Lao People's Democratic Republic, Singapore, Timor-Leste and Vietnam were quick to join like-minded nations, including partners in the Asia-Pacific region, in signing on to the BBNJ Agreement when it opened for signature on 20 September 2023. At the time of writing this paper, the Agreement has 108 signatories in total and 17 State Parties,[51] and will enter into force after a period of 120 days following the ratification, approval, acceptance or accession by 60 States.[52]

# OVERVIEW OF THE BBNJ AGREEMENT

While an exhaustive analysis of the BBNJ Agreement is beyond the scope of this paper, the following sections provide a brief overview, including the geographical and material scope of the instrument, its overriding objectives, and its all-important package deal of issues.

## GEOGRAPHICAL SCOPE

The BBNJ Agreement's geographical scope of application extends to marine areas beyond national jurisdiction (ABNJ). Under the LOSC, ABNJ comprise two distinct maritime zones, the high seas and the international seabed area ('the Area'). Pursuant to Article 86 of the LOSC, the high seas encompass all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State. The high seas are open to all States and are governed by the traditional Grotian principle of the freedom of the seas.[53] In stark contrast, the Area comprises the seabed, subsoil and ocean floor beyond the limits of national jurisdiction (i.e. beyond the continental shelf or outer continental shelf if it exists of a coastal State).[54] Part XI of the LOSC provides that the Area and its mineral resources are the common heritage of humankind[55] and activities in the Area—namely, the exploration for and exploitation of mineral resources must be carried out for the benefit of humankind as a whole. The International Seabed Authority is responsible for controlling activities in the Area (i.e. deep-seabed mining) and providing for the equitable sharing of benefits derived from this activity.[56]

ABNJ cover approximately 64% of the ocean by surface area and more than 70% by volume.[57] These marine spaces remain one of Earth's largest biodiversity reservoirs, home to a rich and diverse web of life,[58] but remain one of the least protected and poorly understood ecosystems on the planet.[59] Thus, one of the overriding aims of the BBNJ Agreement is to put in place appropriate safeguards to protect our deep-ocean environment (including its ecosystems and resources) from the myriad and complex array of threats and stressors currently facing the world's oceans and seas.[60]

## MATERIAL SCOPE

The overriding objective of the BBNJ Agreement is to ensure the conservation and sustainable use of marine biodiversity, not only through the effective implementation of relevant provisions of the LOSC, but by furthering international cooperation and coordination.[61] While the term 'marine biodiversity' is not defined in the BBNJ Agreement, we can turn to the 1992 *Convention on Biological Diversity (CBD)*[62] to assist in our understanding.

Article 2 of the CBD defines 'biodiversity or biological diversity' as:

> *The variability among living organisms from all sources, including…terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.*

Thus, in essence, marine biodiversity encompasses the variability of marine life in all its forms, levels and combinations.[63]

A lot of work will be required to deliver on the objectives of the BBNJ Agreement. For it to be effective, States will need to be able to participate in and assume their responsibilities and obligations under the instrument.[64] As many developing countries lack the financial and technical wherewithal to fulfil their obligations in ABNJ, this can only be achieved through the strengthening of capacity, through the transfer of technology, the sharing of research, training programmes, and financial support. Thus, it was essential to include the issue of CBTMT as one of the four main pillars of the BBNJ package deal.

## THE BBNJ "PACKAGE DEAL"

Like its parent treaty, the BBNJ Agreement has been negotiated around a complex and indivisible package deal of four thematic issues, consisting of:

1. Marine genetic resources including questions on the sharing of benefits;
2. Measures such as area-based management tools, including marine protected areas;
3. Environmental impact assessments; and
4. Capacity-building and the transfer of marine technology (CBTMT).

While the focus of this paper falls on the fourth pillar, it is important to acknowledge its cross-cutting nature. The BBNJ Agreement recognizes that CBTMT is required to support developing States in achieving the objectives related to the other three elements of the package deal, namely, the benefit-sharing of marine genetic resources, the establishment of area-based management tools, and the conduct of environmental impact assessments.[65] In fact, CBTMT is not only important for enhancing the capacity of countries to tackle BBNJ-related issues, but also 'indispensable for realizing the overall objective of marine environmental protection and sustainable development.'[66]

## PART V OF THE BBNJ AGREEMENT – THE CAPACITY-BUILDING FRAMEWORK

BBNJ negotiators did not have to start from scratch when it came to CBTMT. The framers of the LOSC recognized the 'differing ability of States to benefit from the ocean'[67] and were conscious of the need for CBTMT, which is evident in the normative framework provided in Part XIV of the Convention.[68] While Part XIV set out some ambitious aspirations, its provisions 'have remained dormant, inactive and underutilized' since the adoption of the LOSC.[69] Many of its key provisions are not formulated as strict legal obligations but merely dictate a certain standard of behaviour.[70]

Take, for example, Article 266 of the LOSC, which sets out three overriding obligations for States—namely, to cooperate in order to *actively promote* the development and transfer of marine science and technology; *to promote* the development of the scientific and technological capacity of States; and *to endeavour to foster* favourable economic and legal conditions for technology transfer. As these obligations are more reflective of policy goals, they have granted States considerable latitude in respect to their implementation.

Part V of the BBNJ Agreement revitalizes Part XIV of the LOSC by setting out modalities and cooperative mechanisms and tools for the multilateral facilitation of CBTMT. However, before undertaking an examination of Part V and exploring how it strengthens the CBTMT formula enshrined in the LOSC, it is first important to define the terms "capacity-building" and "technology-transfer."

## WHAT IS CAPACITY-BUILDING?

Capacity-building is an imprecise term open to different interpretations[71]—and it is not defined in the LOSC. Capacity-building is 'a spectrum of processes or activities that aim to improve the ability of a person, entity or State to carry out and achieve specific objectives.'[72] Under the BBNJ Agreement, capacity-building is understood as the 'creation or enhancement of the human, financial management, scientific, technological, organizational, institutional and resource capabilities of Parties.'[73]

Approaches to capacity-building include technology cooperation, programmes of assistance and collaborative arrangements and partnerships.[74] In order to build capacity these approaches should address three integrated levels: (1) the societal (the creation of an enabling environment); (2) the institutional (organization building and strengthening) and (3) the individual level (human resource development).[75] Capacity-building can therefore be understood as the enhancement of skills, access to information, knowledge and training on both an individual and organizational level.

Turning to marine technology, whilst the term is not defined in the LOSC, Article 1 of the BBNJ Agreement now helpfully provides a non-exhaustive list of what marine technology can include. For example:

- Information and data, provided in a user-friendly format;
- Manuals, guidelines, criteria, standards, reference materials;
- Sampling and methodology equipment;
- Observation facilities; and
- Expertise, knowledge, skills, technical, scientific and legal know-how and analytical methods related to the protection of BBNJ.

This broad definition takes into account 'the multidisciplinary nature' of BBNJ research and arguably captures the full 'range of scientific and technological tools that could be required both at sea and onshore.'[76]

## TYPES OF CBTMT

Aside from providing a better understanding of what these key terms encompass, Article 44 and Annex II of the BBNJ Agreement address another important gap in the LOSC framework by setting out a non-exhaustive and lengthy list of CBTMT activities and initiatives.

These activities and initiatives can include:

a. The sharing and use of relevant data, information and research;
b. The sharing of scientific, technological knowledge and research results;
c. The exchange and dissemination of information; and
d. Technical expertise through exchanges, research collaboration, technical support, education and training, and the transfer of marine technology.

While the Conference of the Parties (COP) to the BBNJ Agreement will periodically review and assess the types of CBTMT to reflect technological progress and respond to the evolving needs of States and regions,[77] this list provides a strong starting point for future collaborative projects in the Southeast Asia region.

For example, countries could engage in joint oceanography projects focused around marine genetic resources. In addition to exchanging and disseminating information on marine genetic resources, there could also be an exchange of scientists. Taxonomy is a key area that would benefit from the exchange of specialist knowledge as it involves the identification of specimens and the interpretation of DNA sequence information to identify marine plants, animals and microbes.[78] This knowledge will be indispensable for accessing and utilizing value from marine genetic resources along with the sharing of biological inventories and taxonomic studies.

## DUTY TO COOPERATE

Another important way the BBNJ Agreement revitalizes Part XIV of the LOSC is by underpinning its obligations with a meaningful duty to cooperate. Article 41 of the Agreement requires State Parties to cooperate, either directly or through relevant instruments, frameworks, or bodies, to assist Parties (and in particular developing States) in achieving the objectives of the instrument through CBTMT. Article 41 is thereby placing a strict legal obligation on States to actually cooperate to achieve this end, not simply to promote it, which was previously the case under Article 266 of the LOSC.

Article 41 of the BBNJ Agreement is further reinforced by Article 8, which specifically requires States to promote international cooperation in marine scientific research and in the development and transfer of technology. This cooperation is to take place at all levels and in all forms, including through enhanced cooperation and coordination with existing international resource and environmental governance regimes, partnerships with relevant stakeholders (from the private sector to civil society) as well as Indigenous Peoples, local communities, and traditional knowledge holders.[79]

In giving effect to Part V of the BBNJ Agreement, State Parties are also required to give full recognition to the special needs and priorities of developing States.[80] Here, it is important to underscore the importance of regional cooperation and building a network of capacity-building partners. A network of regional partners in Southeast Asia could share knowledge and find areas to collaborate to produce project synergies. It would also help avoid duplication of existing capacity-building efforts in the region, and hence maximize efficiency and efficacy.

## MODALITIES FOR CBTMT

The explicit duty to cooperate enshrined in the BBNJ Agreement should be seen as a significant milestone in the institutionalization of international cooperation,[81] and it is important to acknowledge the techniques and tools the Agreement utilizes to strengthen and foster cooperation and coordination between and among States and other relevant stakeholders.

A main flaw of Part XIV of the LOSC is that its obligations are expressed in general terms and leave out details on how CBTMT can work in practice.[82] The BBNJ Agreement fills this gap by elaborating upon modalities. Pursuant to Article 42(1), State Parties, within their capabilities, will be required to ensure capacity-building for developing States and are to cooperate to achieve the transfer of marine technology to those that need and request it. Subject to their capabilities, States will also be required to provide resources to support CBTMT and are to facilitate access to other sources of support, taking into account their national policies, priorities, plans and programmes.[83]

There are two things to note here. The first is that Article 42 acknowledges that different States are going to have different capabilities when it comes to CBTMT. With that, CBTMT is to be based on and responsive to the needs and priorities of developing States and this can be identified through a needs-based assessment undertaken on an individual case-by-case, subregional, or regional basis.[84] The needs of individual States can be self-assessed or facilitated through the CBTMT committee established under the BBNJ Agreement.[85]

Experience shows us the necessity of undertaking a careful and thorough needs assessment in order to contextualize capacity-building in each country. This is because each country will have its own unique environmental, institutional, political and capacity contexts and challenges to consider.[86] Article 42 also stipulates that CBTMT should be a country-driven, transparent and effective process that is participatory and cross-cutting in nature, and should build upon and not duplicate existing programmes.

Additional modalities for CBTMT are set out in Article 43, which contains a significant commitment. State Parties commit to share a long-term vision of the importance of fully realizing technology development and transfer for inclusive, equitable and effective cooperation, and to participate in the activities undertaken under the new BBNJ Agreement in order to fully achieve its objectives. The key phrase here is "long-term." We know from experience that effective CBTMT initiatives and projects require long-term engagement, dialogue, and relations.

## COOPERATIVE MECHANISMS AND TOOLS

Aside from setting out modalities, the BBNJ Agreement supplements the duty to cooperate with cooperative mechanisms and tools that help to fill in the gaps left behind in Part XIV of the LOSC. Four, in particular, stand out: the first is the formalization of a Clearing-House Mechanism, the second is the enhancement of the data-sharing infrastructure, the third is the incorporation of an innovative funding model, and lastly, there is now a mechanism to enable monitoring, review and follow-up. Whilst many of these cooperative tools will be useful once the BBNJ Agreement enters into force, it's important to start turning our minds to the immediate capacity-building needs and priorities of countries in the Southeast Asia region to ensure effective implementation of the instrument and to identify options for strengthening regional capacities to facilitate inter-governmental cooperation.

This is particularly important in the ASEAN context. The BBNJ Agreement could serve as an important tool to realise the commitments in the 2021 Declaration on the Blue Economy and the ASEAN Blue Economy Framework, released in September 2023.[87] In the 2021 Declaration, ASEAN leaders committed to taking the lead on regional cooperation in relation to the Blue Economy and agreed to explore cooperation in areas including marine environmental protection, marine and coastal ecosystem protection, biotechnology, marine science and data, ocean governance and management, and capacity-building. These areas overlap, to a large extent, with the ambitions and goals of the BBNJ Agreement. As a result, the adoption of the BBNJ Agreement has been seen as marking 'the international community's commitment to transitioning to the Blue Economy, where the use of ocean resources for economic growth and improvement of livelihood must be accompanied by the duty to preserve the health of the ocean ecosystem.'[88]

The 2023 ASEAN Blue Economy Framework expands upon the 2021 Declaration by providing a definition, a vision and a set of guiding principles for implementation of a Blue Economy in ASEAN, namely: (1) value creation; (2) inclusivity; and (3) sustainability. The Framework also provides "blue strategies" on which ASEAN Member States should focus and "blue enablers" to accelerate Blue Economy development and growth in the region. The strengthening and promotion of regional collaboration and cooperation among ASEAN Member States is one of the main goals of the Framework, not only to pursue greater understanding of the Blue Economy, but to also 'foster sustainable and inclusive governance of the oceans and seas in the region.'[89]

The Clearing-House Mechanism, for example, could play an important role when it comes to sharing data, marine scientific knowledge and research within the Southeast Asia region. While the specific modalities for the operation of the Clearing-House Mechanism will be determined by the COP at a later date, it is already tasked to perform a number of wide-ranging functions. The Clearing-House will serve as a centralized platform to enable Parties to access, provide and disseminate information with respect to data, marine scientific and technological knowledge, and research relating to BBNJ.[90] The Clearing-House will also assist in facilitating scientific and technical cooperation within and between States Parties, the private sector, research institutions, civil society and traditional knowledge holders, by connecting users in a collaborative setting and providing links to other relevant global, regional, national and sectoral clearing-house mechanisms and gene banks, repositories, and databases for the exchange of information.[91] This, in turn, could strengthen cooperative links between existing governance organizations and bodies, and foster collaborative initiatives and research projects in the Southeast Asia region.

As information concerning deep-sea biodiversity is located in different institutions and databases, the Clearing-House Mechanism could also serve as an invaluable practical tool when it comes to enhancing the data-sharing infrastructure and ensuring equitable access to data across the region. The BBNJ Agreement has adopted a hub-and-spoke network model for its Clearing-House, serving as a central hub (overseen by the Secretariat) and providing links to other clearing-house mechanisms, gene banks, repositories and databases.[92]

Article 45 of the BBNJ Agreement provides another important mechanism for the periodical monitoring and review of CBTMT activities and initiatives. This fills another gap, as Part XIV of the LOSC lacks a mechanism for measuring the success of CBTMT efforts. Although capacity-building projects specifically tailored for BBNJ are still very limited, we know from existing initiatives that a continuous cycle is required—from the 'needs assessment to planning, implementation, evaluation and follow-up.'[93] Now, under the authority of the COP, the CBTMT Committee will periodically monitor and review CBTMT undertaken under the instrument.[94] This will be aimed at assessing and reviewing the needs and priorities of States as well as reviewing the support provided and any gaps in meeting the needs of developing States.[95] This monitoring and review mechanism will also assist in identifying and mobilizing funds under the financial mechanism established under the BBNJ Agreement, measuring performance based on agreed indicators and making recommendations for follow-up activities.[96]

Aside from monitoring and overseeing the implementation of Part V of the instrument, the CBTMT committee will also play an important role by submitting reports and recommendations for the COP to consider and act on.[97] While the terms of reference and modalities for the operation of this committee will be decided by the COP at its first meeting, it will be very important to ensure that there is a diverse range of voices on this committee to ensure equitable participation and representation, including from Southeast Asia.

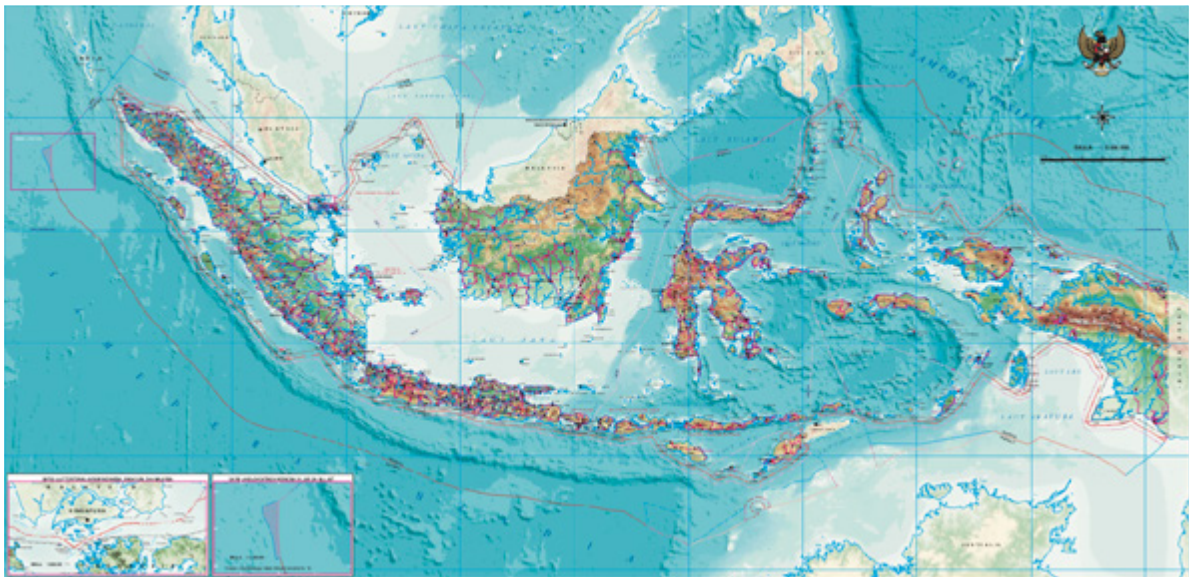
# BENEFITS AND OPPORTUNITIES: AN INDONESIAN PERSPECTIVE

Indonesia played a significant and active role throughout the BBNJ negotiation process including the four meetings of the Preparatory Committee and the five meetings of the Intergovernmental Conference. From the very beginning of the negotiations, Indonesia was of the view that the BBNJ Agreement should benefit humankind generally and should also be used to advance Indonesia's interests. This is reflected in a statement made by the Coordinating Minister for Maritime Affairs and Investment, Luhat Binsar Pandjaitan, as the head of the Indonesian delegation to the BBNJ negotiations upon adoption of the instrument on 19 June 2023:

> *The Indonesian National Team has been actively and strategically involved in the negotiations, but more importantly, we must use this instrument for Indonesia's interests. Biotechnology will be a driving force in the medical and strategic technology industries in the future. Indonesia should not be left behind; we must take action now.*[98]

There were two major rationales behind Indonesia's desire to engage with other countries in negotiating the BBNJ Agreement. Firstly, Indonesia's 'strategic centrality' within the Asia-Pacific region plays an important role: located 'in the middle of the cross-roads' between the Indian and Pacific Oceans and between the Asian and Australian continents, it is a country abundant with natural marine resources.[99] Indonesia's geographical traits as the largest archipelagic State are also significant when a comparison is made between its land territory and maritime domain.

According to the following map (updated by the Indonesian Government on 14 July 2017), Indonesia is located between the coordinates of 6.1750°E latitude and 106.8283°E longitude and its geographical alignment is latitude 5° 00'N and longitude of 120° 00' E.[100]



*Map 1: The Map of Indonesia as updated by the Indonesian Government on 14 July 2017*[101]

Taking into account the data disclosed by Badan Informasi Geospasial Indonesia in 2013,[102] Indonesia covers 1,922,570 square kilometres of land and 3,257,483 square kilometres of marine frontier.[103] This means that with a total area of 5,250,053 square kilometres, the majority (62.05%) of Indonesia's area is covered by sea. The oceans surrounding Indonesia also comprise vast areas of high seas rich in marine resources, and it has been suggested that Indonesia could play a pivotal role in initiating the designation of high seas marine protected areas at key sites bordering Indonesia's jurisdiction, including in the Indian Ocean, the Andaman Sea, and the Pacific Ocean.[104]

The second rationale behind Indonesia's active involvement in the BBNJ process is also connected to Indonesia's geographical location. Indonesia is adjacent to high seas in some parts of its waters, including in the Indian Ocean and western part of Sumatera Island. Although the geographical scope of application of the BBNJ Agreement is limited to waters beyond national jurisdiction, the ecological connectivity between the high seas and the waters under Indonesia's jurisdiction was a key consideration in negotiating the BBNJ Agreement from a national interest point of view.

As the largest archipelago in the world,[105] Indonesia also used this to its advantage in the BBNJ negotiation process. For example, as an archipelagic State bordering the high seas, Indonesia strongly advocated for its inclusion in the consultation process on high seas activities and opposed 'irresponsible and non-consultative activities.'[106] Indonesia's leadership as an archipelagic State also assisted in 'ensuring an affirmative policy for the representation of experts from island and archipelagic countries' in the elaborate institutional arrangements of the BBNJ Agreement, including representation on the scientific and technical body and other committees established under the instrument.[107]

## THE POTENTIAL BENEFITS OF THE CBTMT FRAMEWORK FOR INDONESIA

As discussed above, one of main pillars of the BBNJ Agreement is its CBTMT framework. While Part V of the BBNJ Agreement is dedicated to this package deal element, other provisions of the instrument are also of profound interest to developing States in the Southeast Asia region, including Article 14[108] on the fair and equitable sharing of benefits from marine genetic resources and Article 17 concerning area-based management tools.[109] These provisions could also provide important benefits for Indonesia.

## RESEARCH FINANCING AND PARTNERSHIP OPPORTUNITIES

A common problem faced by developing States including Indonesia is a lack of financial resources and capacity to undertake BBNJ-related research. Indonesia has nominated a particular institution to perform integrated research, development, studies, application, invention and innovation. This institution is called the National Research and Innovation Agency (Badan Riset dan Inovasi/BRIN) and was established by the Presidential Regulation Number 74 of 2014. BRIN was actively engaged in the BBNJ negotiation process, with members of the agency forming part of the Indonesian national delegation.

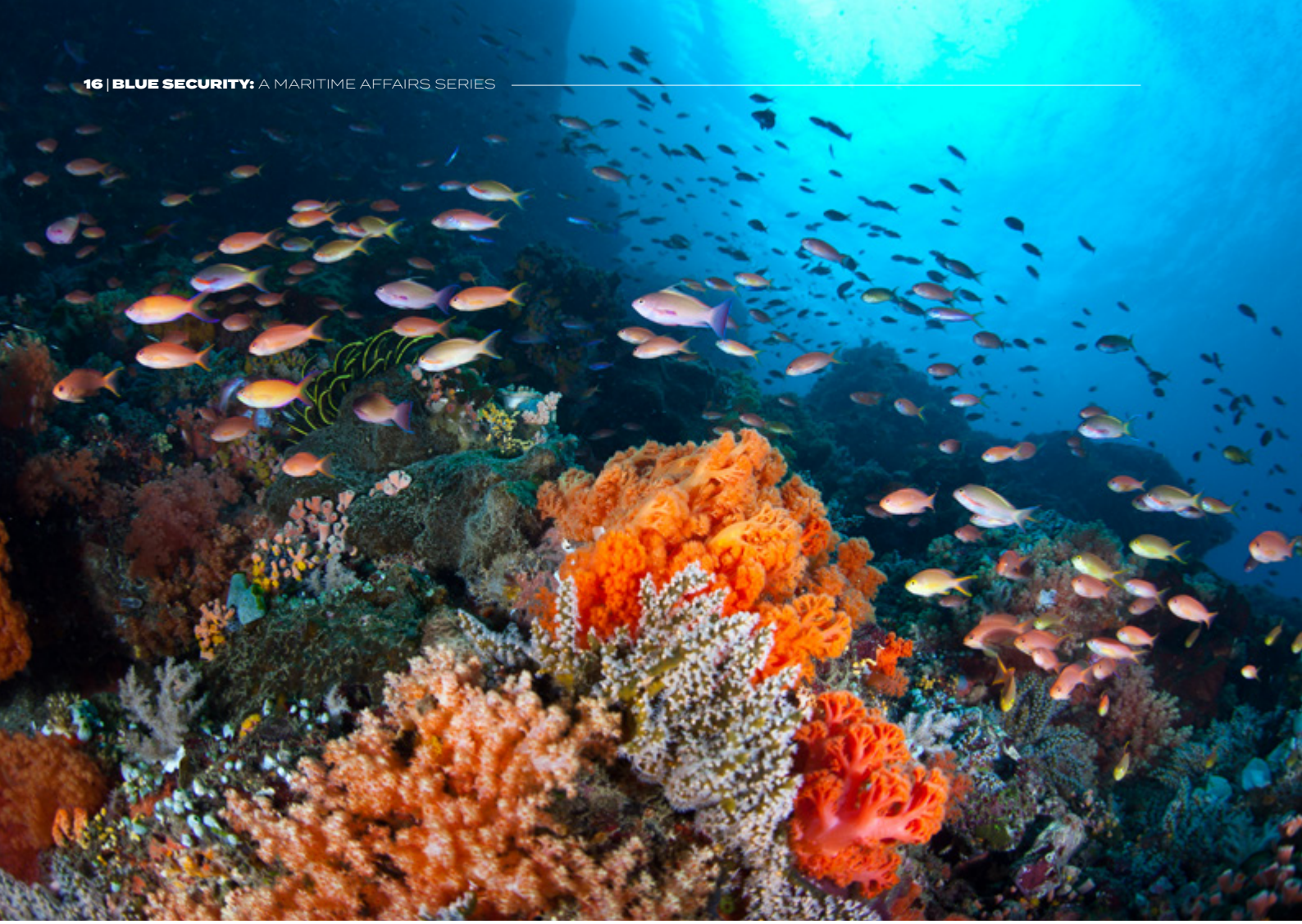
Moving forward, BRIN could partner with other relevant agencies and institutions, both in Indonesia and beyond, in finding potential solutions for situations where marine protected areas overlap in areas within and beyond national jurisdiction. This could include, for example, dealing with a situation where there is non-living resource exploration and exploitation in ABNJ, and the pollution from this activity has the potential to spread into Indonesia's exclusive economic zone or territorial waters. Taking into account the connection of the high seas to coastal waters, BRIN could also work alongside relevant agencies and institutions within the region to counter IUU fishing in the high seas, which can result in environmental degradation and economic losses for coastal communities, as well as a depletion in Indonesia's fish stocks. As the above examples involve issues that concern marine areas both within and beyond national jurisdiction, cooperation between Indonesia as a coastal State and financial support for research from the international community will be imperative.

In addition, BRIN could partner with other research institutions to explore and exploit marine genetic resources in ABNJ. Aside from being a very expensive exercise, these activities require expertise, adequate marine research facilities, and advanced technology. Indonesia could collaborate with research institutions in developed countries and engage in short and long-term capacity-building programs for personnel (e.g. training, education, internship, joint publication, workshops and seminars) and institutional (e.g. research facilities assistance, including research equipment).

## OPPORTUNITY FOR EQUAL REPRESENTATION

Pursuant to Article 46, the BBNJ Agreement establishes a CBTMT Committee. The composition of this Committee is to take into consideration gender balance and equitable geographical representation and provide for representation on the Committee from least developed countries, small island developing States and landlocked developing countries.[110] This provision paves the way for Indonesia to be part of this Committee and plays an important role by having a voice from a national and regional perspective.

Scientists and researchers with proper qualifications and expertise from related institutions can be nominated by the Indonesian Government and elected by the COP as a member of the Committee. The Indonesian government has been actively encouraging Indonesian representatives to occupy various important positions and roles under the BBNJ Agreement, including on the CBTMT Committee.[111] The Indonesian government sees this as a continuation of the 'central yet neutral and facilitative role' Indonesia played in the BBNJ negotiation process, as well as a way to promote national and regional interests.[112]



## THE ESTABLISHMENT OF MARINE PROTECTED AREAS

The Minister of Marine Affairs and Fisheries in Indonesia has expressed a strong commitment to espouse the blue economy through the establishment of 30% marine conservation of its total marine area by 2045 (Vision 30 by 2045). Currently, the total area for marine conservation in Indonesian waters covers 28.9 million hectares or 8.9%, comprising 21.5 million hectares of designated areas and 7.4 million hectares reserved. If the Vision 30 by 2045 comes to fruition, the total area for marine conservation in Indonesia will cover 97.5 million hectares.[113]

This blue economy strategy can be secured in the future by garnering support from State parties of the BBNJ Agreement through the development, implementation, management and enforcement of area-based management tools, including the establishment of high seas marine protected areas.[114] Indonesia's ability to designate marine protected areas in its EEZ adjacent to high seas could assist in realizing the Vision 30 by 2045, and these marine protected areas could extend into the adjacent high seas to take into account the interconnected ecological ecosystem. Hence, the cooperation between Indonesia as a coastal State, the CBTMT Committee, the Scientific and Technical Body, and the COP will be necessary when it comes to the designation of marine protected areas under the BBNJ Agreement in order to determine the design, development and management of priority protection areas.

## IMPLEMENTATION CHALLENGES FOR INDONESIA

Although the CBTMT provisions of the BBNJ Agreement have the potential to result in a number of benefits for Indonesia, there is likely to be some implementation challenges in the future when it comes to Part V of the instrument.

## GOVERNMENT PRIORITIES

Indonesia's waters offer abundant marine and fisheries resources, which not only require enormous efforts to explore and exploit but also manage and conserve. For this reason, a developing archipelagic State, like Indonesia, may wish to invest more of its attention and time on ways to explore and manage waters within national jurisdiction at the maximum level rather than turning its attention to ABNJ. Capacity limitations and resource constraints in overseeing waters within national jurisdiction have kept governments busy around the world, including Indonesia.

## EXISTING REGULATORY FRAMEWORK

Another challenge faced by Indonesia will come after the BBNJ Agreement enters into force. At this time, it will be necessary for Indonesia to domesticate the BBNJ Agreement at a national level through the development and adoption of national legislation. The initial step in the treaty-making process is ratification, which in Indonesia is a lengthy and complicated process involving multiple related ministries and stakeholders, including public consultation. The next step will be looking at how the BBNJ Agreement's provisions align with Indonesia's existing laws and regulations, and this is likely going to require technical assistance.

When it comes to the BBNJ portfolio, there are a number of relevant ministries in Indonesia, including the Ministry of Foreign Affairs, the Ministry of Marine Affairs and Fisheries, the Coordinating Ministry of Maritime Affairs, and the National Research and Innovation Agency. Effective implementation of Part V of the BBNJ Agreement will require strong coordination among Indonesia's various government agencies, research institutions, and stakeholders. Indonesia may face challenges in ensuring seamless coordination and communication across its different entities, especially those institutions that are not familiar with the BBNJ Agreement.

When putting together national legislation, it will also be essential to determine the division of responsibility among these relevant national agencies and bodies in a way that ensures that there are no unintended gaps in overall governance of matters under the BBNJ Agreement. Indonesia is currently in the process of undertaking a stocktake of its existing laws, regulations and policies to identify gaps in its national framework and to formulate 'strategic implementation measures'[115] for the domestication of the BBNJ Agreement, including its provisions on CBTMT.

## ASSESSMENT OF NEEDS AND PRIORITIES

Indonesia will also need to consider future CBTMT needs and priorities. Pursuant to Article 42 of the BBNJ Agreement, CBTMT is to be based on and responsive to the needs and priorities of developing States through needs-based assessments, undertaken either on an individual, subregional, or regional case basis. Such needs and priorities may be self-assessed by Indonesia or facilitated through the CBTMT Committee and the Clearing-House Mechanism.[116] The relevant Indonesian ministries will need to set priorities when it comes to CBTMT particularly in respect to marine genetic resources, area-based management tools, and environmental impact assessments.[117]

## FINANCIAL CONTRIBUTION

When it comes to deciding whether to ratify the BBNJ Agreement, Indonesia will need to weigh up the advantages and disadvantages of becoming a State Party to the instrument. This will require undertaking a cost and benefit analysis and regulatory impact assessment. This process should thoroughly assess the strengths, weaknesses, opportunities and risks in becoming a party. Arguably, the BBNJ Agreement comes with opportunities but also challenges for Indonesia, as outlined above. One issue that will need to be addressed is the financial resources and contribution required to achieve the objectives of the Agreement, including the funding mechanism to be established under Article 52. Funding may be drawn from public and private sectors, including from States and international financial institutions. While Indonesia has been committed to the BBNJ process from its outset, the Ministry of Finance and Ministry of National Development Planning/National Development Planning Agency should ensure that a certain budget allocation for the financial contribution is secured in the State budget.

## BUILDING AND MAINTAINING EXPERTISE IN MARINE BIODIVERSITY MANAGEMENT

Building and maintaining expertise in marine biodiversity management and conservation will also be crucial. Indonesia has a limited number of trained professionals and experts in these fields. Ensuring that training programs are effective and reach all relevant stakeholders could be challenging, especially in remote or under-resourced areas.

The other challenge is data. Comprehensive data for effective management and conservation will be required in order to achieve the long-term objectives of the BBNJ Agreement. Notably, Strategy 1 of the ASEAN Blue Economy Framework also reinforces the need for ASEAN to have a common platform with standardised data and metrics for assessing its marine ecosystems and for science-based policymaking. Relevant agencies, research institutions and stakeholders within Indonesia should therefore explore ways to enhance the gathering and sharing of data on marine biodiversity in ABNJ. However, facilitating data sharing and collaboration with international partners can be complex, particularly if there are issues with data accessibility and intellectual property rights.

Implementing advanced monitoring and research technologies may also be challenging due to limited access to technology or technical expertise. Developing and maintaining the necessary infrastructure for monitoring and managing biodiversity in ABNJ may be resource-intensive and complex.

Ensuring that national laws and regulations are aligned with the BBNJ Agreement's requirements may also pose a challenge. There may be gaps or adjustments required in order to ensure consistency between Indonesia's international commitments under the instrument and its national legislation. Implementing and enforcing new regulations and standards effectively can also be difficult and challenging.

# BENEFITS AND OPPORTUNITIES: A PHILIPPINE PERSPECTIVE

The Philippines is comprised of 7,641 islands and is the 2nd largest archipelagic State in the world. It goes without saying that it has a deep connection with the vast marine area in and around these islands and depends upon the oceans within its national jurisdiction for food, energy, and economic security. What is often overlooked, however, is the fact the Philippines also sits in between two global commons – the Pacific Ocean to the east and the high seas pocket in the middle of the South China Sea to the west – that are essential for trade, transportation, and the provision of various ecosystem services. The ecological connectivity of the oceans means that the Philippines' adjacency to these marine areas beyond national jurisdiction renders it vulnerable to any changes to the ocean environment or to marine biodiversity. The adoption of the BBNJ Agreement was therefore an important and welcome step towards the protection of the country's vital interests.

## POTENTIAL BENEFITS FROM THE CAPACITY BUILDING FRAMEWORK

Like many other developing countries, the Philippines actively shaped and championed the CBTMT part of the BBNJ Agreement. It focused its efforts in trying to get support for practical solutions (e.g. the establishment of dedicated committees and bodies within the treaty to focus specifically on CBTMT[118] and the identification of the components of a CBTMT financing mechanism) that could help concretize assistance obligations and help operationalize them for the future.[119] The Philippines' active engagement with the BBNJ Agreement negotiation process was motivated by the early realization that existing knowledge and technology deficits could seriously interfere with the fulfillment of its obligations as well as the enjoyment of its rights under the new treaty. Its engagement was also driven by the desire to address inequity in the oceans caused by persistent access and capacity asymmetries between developed and developing countries.

## ASSESSMENTS AND REVISIONS OF THE DOMESTIC LEGAL AND REGULATORY FRAMEWORK

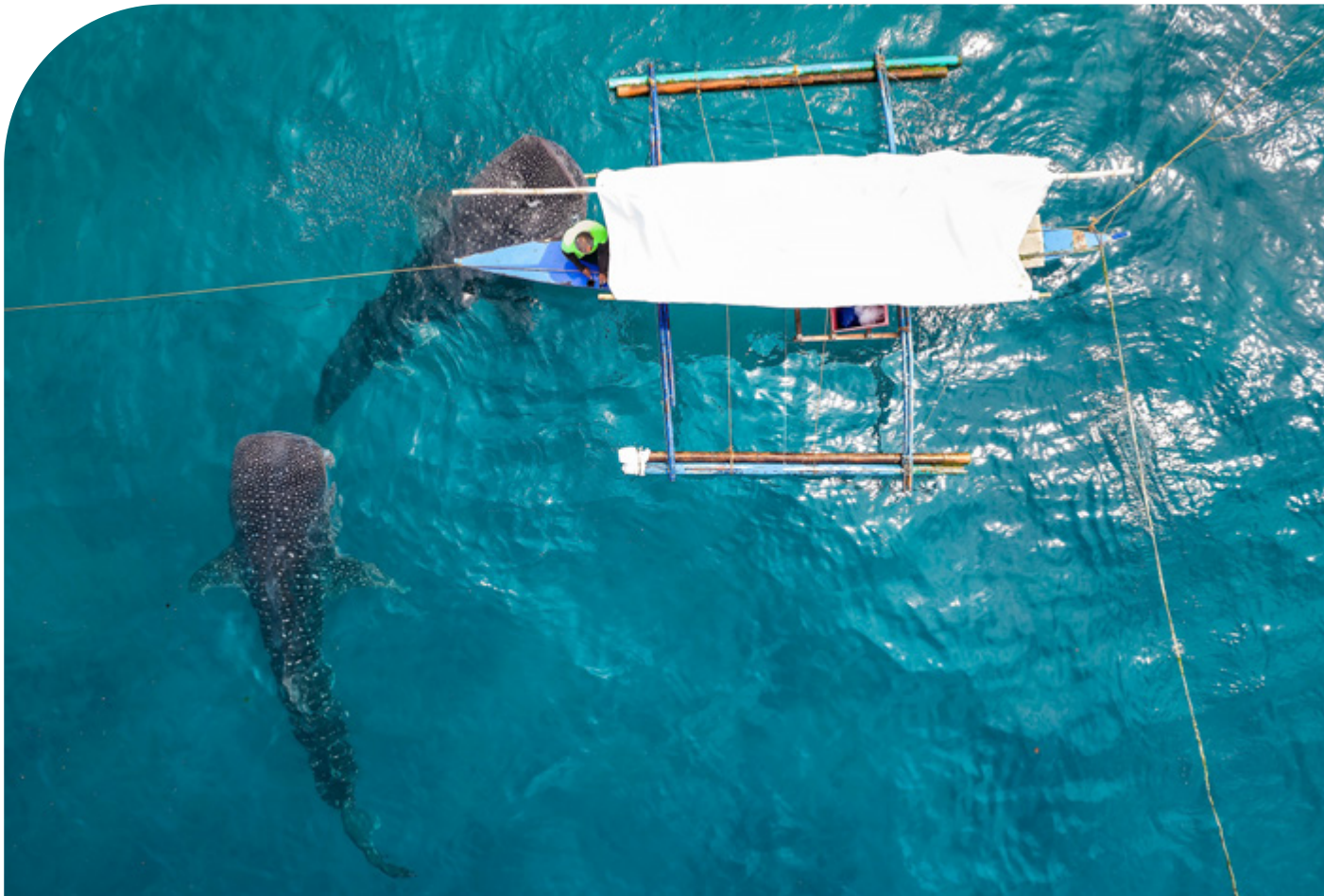
The Philippines hopes to benefit from the capacity-building framework of the BBNJ Agreement in several ways. The most immediate and urgent way relates to the preparatory work for the domestic implementation of the agreement. The Philippines needs technical support so that it can effectively review and revise key legal and regulatory frameworks in areas such as marine scientific research (MSR)[120], environmental impact assessments[121], and the establishment of marine protected areas.[122] The purpose of such review is to ensure consistency and coherence with its obligations and rights under the BBNJ Agreement. One timely example of where such technical assistance (in the form of technical input and targeted training for legislators and resource persons) could have impact is in the process for the adoption of a comprehensive EIA law, which the Philippines currently does not have. At present, EIAs within national jurisdiction are conducted pursuant to President Decree No. 1586 of 1978 and a handful of subsequently issued administrative orders. This framework is outdated and does not reflect the best available science/ state of the art on EIAs or international best practices, especially in relation to marine and deep seabed environments.

## TRAINING AND RESEARCH OPPORTUNITIES IN ABNJ

Once the treaty is in force, another way that the Philippines can benefit is by accessing new opportunities for BBNJ-focused training and research (whether in situ, ex situ, or in silico) that are provided as non-monetary benefits under Article 52 and as further elaborated in Annex II.[123] In the past, Filipino scientists were able to upskill and specialize through participation in training programs, exchanges, internships, scholarships, early career researcher programs, seminars, and workshops. However, these opportunities were not sustained due primarily to insufficient funding and outdated or lacking research infrastructure. If they are able to consistently access similar opportunities under the capacity-building framework of the BBNJ Agreement, the Philippines will be able to develop a deeper bench of local experts who can contribute to and support the country's conservation and sustainable use efforts. They can be specifically trained in relevant knowledge areas such as marine taxonomy, systematics, data analytics, and population diversity, including bioactive compounds in relation to marine genetic resources.

## COORDINATION AND COLLABORATION AT THE REGIONAL AND GLOBAL LEVEL

The Philippines also hopes to further strengthen its capacities through coordination and collaboration initiatives at the regional and global levels. The available opportunities are currently limited, and a larger role for regional organizations such as ASEAN and relevant regional fisheries management organizations (RFMOs) could be encouraged in coordination with BBNJ Agreement institutions. The BBNJ Agreement can help facilitate this through a carefully thought out Clearing-House Mechanism that uses a de-centralized and networked approach. Developing countries like the Philippines can easily access CBTMT-related information and opportunities provided by such organizations and holistically consider synergies and dynamics with other partners.



## IMPLEMENTATION CHALLENGES FOR THE PHILIPPINES

The enjoyment of the aforementioned potential benefits hinges on the Philippines' prioritization of ocean science via the establishment of sound domestic MSR laws and policies, the enhancement of skills and capacities of Filipino marine scientists, and the sustained participation of the country in regional and global initiatives for MSR collaboration. These are important pre-conditions to the country's full and meaningful implementation of the BBNJ Agreement. To this end, several challenges must be addressed.

First, there is no single government entity or agency that oversees and coordinates the conduct of MSR in the Philippines. It is thus not surprising that there is also no overarching MSR agenda or national action plan that could facilitate the allocation of resources and capacity-building opportunities to the handful of relevant government agencies, universities, and non-governmental organizations that engage in MSR. This means that the Philippines currently does not have an appropriate governance structure for undertaking a comprehensive needs assessment or baseline study that could inform its engagement with the CBTMT Committee and the Clearing-House Mechanism in the BBNJ Agreement.

Second, the existing Philippine regulatory framework[124] hinders partnership and collaboration with other States for the conduct of MSR in Philippine maritime zones. Not only has this limited the learning and research opportunities of Filipino scientists, but it has also resulted in many missed MSR opportunities that could have significantly added to the country's understanding of its ocean ecosystems and resources. Current guidelines do not take into consideration the views and actual experiences of marine scientists. They also do not take into account global best practices, which could deter potential international research collaborations.

Third, the Philippines must overcome and address its research infrastructure and funding gaps. The lack of such resources makes it extremely difficult to conduct productive and useful research. Not only does this reality act as a barrier to full participation in BBNJ processes like the utilization of MGRS, the conduct of EIAs, and the establishment of MPAs; it also means that essential compliance processes such as monitoring and reporting may also be compromised.

## POTENTIAL LOOPHOLES

Unlike other multilateral environment agreements with similar provisions for CBTMT[125], the BBNJ Agreement includes language that leaves no doubt as to the mandatory nature of capacity building.[126] This is further confirmed by the inclusion of a financial mechanism – comprised of a special fund and the Global Environmental Facility (GEF) trust fund[127] – that specifically guarantees funding for CBTMT activities.[128] While this looks promising, two potential loopholes could temper the useful impact of these provisions for the Philippines as well as other developing countries, including Indonesia.

Funding has always been an issue for developing countries. The lack of it makes it extremely challenging for such countries to participate in MSR in ABNJ owing to the expense and technology involved. While the guaranteed funding for CBTMT in the BBNJ Agreement is a step closer to making the oceans a fairer and more equitable space, there is still a need to scrutinize operational details such as funding sources. Under Article 52, the special fund shall be mandatorily funded through annual contributions by developed countries in accordance with Article 14, paragraph 6[129], and payments which constitute 'the sharing of monetary benefits from the utilization of MGRs and digital sequence information' in accordance with Article 14, paragraph 7.[130] A close analysis of the latter, however, reveals the loophole that the payments are actually contingent in nature and not guaranteed at all, as they depend on the pace of research and development and the success of commercialization. Moreover, developed countries can also temporarily "opt out" of these payment modalities, since they may make a declaration that these shall not apply to them for a period of up to four years.

Finally, one can already anticipate the large number of developing States that will request capacity building assistance once the BBNJ Agreement enters into force. This is inevitable given the rather expansive list of country categories that are eligible for funding support.[131] However, the treaty text is very opaque about the specifics of its equitable sharing criteria and the prioritization process for funding allocation, given that support will be given 'on the basis of need.[132] There is also very little detail with respect to a follow-up mechanism for assessing the proper use of funds, and for considering accountability that could be tied to ability to access more funds in the future. These will presumably be addressed by the finance committee on financial resources that the future COP will establish. Unless and until clarified by future guidelines, an archipelagic developing country like the Philippines – despite having legitimate capacity and resource needs – may ultimately find itself under-prioritized or even excluded from the allocation of the special fund. This is because the treaty as is currently worded explicitly and automatically privileges LDCs and SIDS in the operationalization of the funding mechanism for capacity building.

# BENEFITS, OPPORTUNITIES AND IMPLEMENTATION CHALLENGES FOR THE SOUTHEAST ASIA REGION

From the above case studies of Indonesia and the Philippines, certain lessons can be drawn and applied more broadly to the Southeast Asia region when it comes to the benefits and opportunities presented by the BBNJ Agreement as well as future implementation challenges.

Most of the Southeast Asia region consists of developing States, and to a large extent, they will share common problems when it comes to the implementation of the BBNJ Agreement. Research activities in ABNJ are costly and time-consuming. Sophisticated and expensive technologies are required to reach deep-sea areas and sample organisms, including specialized research vessels, in situ sampling tools, and molecular biology techniques and technologies.[133] Developing States generally lack access to these technologies and the human and financial wherewithal required to undertake BBNJ-related research.[134] Thus, these countries can oftentimes miss out on the benefits to be derived from the discovery of new habitats, species and organisms.

However, pursuant to Article 8 of the BBNJ Agreement, State Parties will now be under an explicit obligation to promote international cooperation in marine scientific research and in the development of marine technology to support the achievement of the instrument's objectives.[135] This provision could be invoked and relied upon by countries in the Southeast Asia region in proposing and seeking financial assistance based on needs-based assessments undertaken on a national, regional or sub-regional basis. These needs-based assessments could be used to determine regional priorities when it comes to the implementation of the BBNJ Agreement.

The Southeast Asia region stands to gain significantly from the CBTMT framework of the BBNJ Agreement. This framework is designed to enhance the capabilities of countries to manage and protect marine biodiversity in ABNJ, which is crucial for regional marine ecosystems. Below are some opportunities for Southeast Asia.

## IMPROVED MARINE BIODIVERSITY MANAGEMENT

The CBTMT framework could assist Southeast Asian countries develop better tools and strategies for conserving marine biodiversity in ABNJ. This includes improved monitoring, data collection, and management practices. By building capacity, countries can more effectively implement conservation measures that protect critical habitats and species, helping to preserve the region's rich marine biodiversity. The ASEAN Blue Economy Framework also recognises that 'a skilled workforce that is equipped with the necessary knowledge and competencies is necessary to support the shift in thinking needed for the Blue Economy.'[136]

## REGIONAL COLLABORATION AND INTEGRATION

The BBNJ Agreement emphasizes regional collaboration, which can foster greater cooperation among Southeast Asian countries on shared marine resources and ecosystems. This collaborative approach could lead to more unified and effective management strategies. The CBTMT framework encourages the sharing of data, research, and best practices amongst countries. This regional knowledge exchange could also greatly enhance collective understanding and management of marine biodiversity both at a national and regional level.

## ECONOMIC BENEFITS

Improved management of marine biodiversity can lead to healthier fish stocks and more sustainable fisheries, which are vital for the livelihoods of many people in Southeast Asia. This can enhance food security and support local economies.

## STRENGTHENED SCIENTIFIC RESEARCH AND INNOVATION

The CBTMT framework of the BBNJ Agreement could support the development of scientific research and technological innovation in the Southeast Asia region. This would also align with Blue Strategy 2 of the ASEAN Blue Economy Framework, which centres around addressing technology and digital gaps amongst ASEAN member States and encouraging and synergising ASEAN think tanks and research centres. The CBTMT framework in Part V of the BBNJ Agreement could therefore lead to better understanding of marine ecosystems, improved conservation techniques, and advancements in marine science and technology. Improved data collection and monitoring systems will provide more accurate and comprehensive information about marine biodiversity, aiding in informed decision-making and management as well as the identification of priority protection areas.

## CLIMATE CHANGE MITIGATION AND ADAPTATION

CBTMT efforts under the BBNJ Agreement could also enhance the ability of Southeast Asian countries to adapt to climate-driven impacts, such as rising sea temperatures and ocean acidification. This includes developing strategies to protect vulnerable marine ecosystems and species.

## ENHANCED LEGAL AND POLICY FRAMEWORKS

The BBNJ Agreement's CBTMT framework could assist Southeast Asian countries in aligning their national policies, priorities, plans and programmes with international standards set by the BBNJ Agreement. This can lead to more robust and coherent legal frameworks for marine biodiversity conservation and protection. Better training and resources could also enhance the enforcement of marine protection laws and regulations, reducing illegal activities and improving compliance within the region.

# CONCLUSION

This paper has examined the strong CBTMT framework of the BBNJ Agreement and explored how it could pave the way for future collaborative projects, initiatives and opportunities in Southeast Asia as countries begin to walk the road to ratification and implementation of the instrument. By exploring the BBNJ Agreement's CBTMT framework from the perspectives of two countries, Indonesia and the Philippines, this paper has highlighted not only the potential benefits to be derived from the instrument, but also implementation challenges for these countries and possible loopholes which are important considerations for the broader Southeast Asia region.

# ENDNOTES

1 *Agreement 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,* UN Doc A/CONF.232/2023/4* (19 June 2023) (BBNJ Agreement).

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**121** The Philippine Environmental Impact Statement System (PEISS) was established in 1978 via Presidential Decree No. 1586. Full implementation of the PEISS only commenced in 1981 following the issuance of Presidential Proclamation 2146, which defined key terms relevant to the assessment process. The Philippine legislature is currently considering several bills for the reform and enhancement of the PEISS.

**122** National-level MPAs are currently established through two related laws – the 1992 National Integrated Protected Area Systems Act (Republic Act No. 7586) and the 2018 Expanded National Integrated Protected Area Systems Act (Republic Act No. 11038). These are complemented by local issuances of local government units for locally-managed marine protected areas. Unfortunately, identification and designation criteria are not uniform across the board. Implementation and monitoring across these MPAs is also inconsistent and not all are considered successful. Despite this, there are ongoing plans for the establishment of several MPA networks in key biodiversity areas within national jurisdiction.

**123** Some of the modalities mentioned in Annex II include: (1) education and training in (a) The natural and social sciences, both basic and applied, to develop scientific and research capacity, (b) Technology, and the application of marine science and technology, to develop scientific and research capacities, (c) Policy and governance, (d) The relevance and application of traditional knowledge; (2) The exchange of experts, including experts on traditional knowledge; (3) The provision of funding for the development of human resources and technical expertise, including through (a) The provision of scholarships or other grants for representatives of small island developing States Parties in workshops, training programs or other relevant programs to develop their specific capacities; he provision of financial and technical expertise and resources, in particular for small island developing States, concerning environmental impact assessments; and (4) The development of technical, scientific and research and development programs, including biotechnological research activities.

**124** See the 2008 Guidelines for the Conduct of MSR by other States in Philippine Maritime Zones.

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**126** BBNJ Agreement, art. 52(1).

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**129** BBNJ Agreement, art. 14(6) states: "After the entry into force of this Agreement, developed Parties shall make annual contributions to the special fund referred to in article 52. A Party's rate of contribution shall be 50 per cent of that Party's assessed contribution to the budget adopted by the Conference of the Parties under article 47, paragraph 6 (e). Such payment shall continue until a decision is taken by the Conference of the Parties under paragraph 7 below."

**130** BBNJ Agreement, art. 14(7) lists the following modalities for payment which may include: (a) milestone payments; (b) payments or contributions related to the commercialization of products, including payment of a percentage of the revenue from sales of products; (c) a tiered fee, paid on a periodic basis, based on a diversified set of indicators measuring the aggregate level of activities by a Party.

**131** BBNJ Agreement, art. 52(12) lists the following as being eligible for access to funding under the Agreement: least-developed countries (LDCs), landlocked developing countries, geographically disadvantaged States, small island developing States (SIDS) and coastal African States, archipelagic States, and developing middle-income countries.

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