Biodiversity Beyond National Jurisdiction (BBNJ): Indonesian Perspective as An Archipelagic State

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Abstract. Biodiversity Beyond National Jurisdiction (BBNJ) is the proposed new international agreement on the sustainable use of marine biological diversity of areas beyond national jurisdiction. It will be an international, legally binding instrument under the United Nations Convention on the Law of the Sea (UNCLOS). The road to the development of a new international agreement has been started. The issue of BBNJ has been discussed for the past 15 years since the adoption of the United Nations General Assembly (UNGA) Resolution A/Res/59/24 on November 17, 2004. This paper addresses the issue of the development of BBNJ from the Indonesian perspective as an Archipelagic State. Analysis of available publications related to all activities’ legal standing in the Areas Beyond National Jurisdiction (ABNJ) is conducted in this paper. The article starts with definitions and the legal standing of BBNJ. This paper specifically elaborates the package deal components as the basis for drafting an international legally binding instrument (ILBI). The package deal comprises marine genetic resources and access to benefits sharing, area-based management tools, including marine protected areas, environmental impact assessment, capacity-building, and marine technology transfer. The paper will then elaborate on the policy implication of BBNJ for Indonesia, including the adverse and its benefits. Finally, the article concludes with Indonesia’s recommendations to anticipate the entry into force of the new agreement of BBNJ.

1. Introduction

The Areas Beyond National Jurisdiction (ABNJ) is estimated at around half of the Earth’s surface and hosts significant marine biodiversity [1]. ABNJ is commonly called the high seas, which are ocean areas for which no one nation has sole responsibility for management. According to Article 86 of the United Nations Convention on the Law of the Sea (UNCLOS), the water column beyond the Exclusive Economic Zone (EEZ), or beyond the Territorial Sea where no EEZ has been declared, called the High Seas. The remoteness of the areas has led to a lack of control over resource exploitation in these areas. The ABNJs are under pressure and threats from human activities, which impact the biota and ecosystem in the regions. The impacts including overexploitation of living marine resources, especially bottom fisheries [2], exploitation of genetic resources [3], destruction of marine habitats on continental shelves [4], the impact of climate change [5], and pollution on the marine environment [6].
These pressures and threats have become the issues rise in international fora in recent years. The exploitation of natural resources in ABNJ must be managed properly. The growing awareness of the international community on the pressures and threats on ABNJ and its ecosystem has led to the adoption of United Nations General Assembly (UNGA) Resolution A/RES/69/292 on 19 June 2015, regarding the establishment of Ad-Hoc Open-ended Informal Working Group of Biodiversity Beyond National Jurisdiction (hereinafter referred to as the “BBNJ Working Group”). The BBNJ Working Group has a duty to study issues relating to the conservation and sustainable use of marine biological diversity beyond national jurisdiction areas, including by taking a decision on the development of an international instrument under the United Nations Convention on the Law of the Sea [7].

It was continued by the adoption of the UNGA Resolution A/RES/72/249 on 24 December 2017 regarding the convening of an intergovernmental conference under the auspices of the United Nations. The conference was held to follow up the Preparatory Committee’s recommendation on the elements and elaborate on the text of an International Law-Binding Instrument (ILBI) under the UNCLOS on the conservation and sustainable use of marine biological diversity of ABNJ. The conference was held on 16-18 April 2018.

Now, the road to the development of a new international agreement has started. There are many things that have to be prepared by maritime countries in the world, including Indonesia, in order to meet the enactment of this new treaty. This paper addresses the issue of BBNJ from the Indonesian perspective as an Archipelagic State. It discusses the legal standing and key concerns of the BBNJ. The paper highlights Indonesia’s interests in the development of the BBNJ agreement. Finally, the article provides recommendations to Indonesia in order to anticipate the entry into force of the new treaty of BBNJ.

2. Materials and Method
The present study has been conducted from the Indonesian perspective on the development of the international legally binding instrument of BBNJ. The analysis was conducted in the aspects of the legal standing of all activities in ABNJ, including the exploration and exploitation of marine genetic resources (MGRs); access to benefit sharing; environmental impact assessments (EIAs); as well as the use of management tools for conservation and sustainable use of marine resources, including marine protected areas (MPAs).

The publications in form of papers and reports related to those aspects were searched. Information on relevant treaties, conventions, and the policy of international organizations has been obtained from governmental reports or academic papers and electronic sources such as websites. As the focus of the study is to provide input to the Government of Indonesia in dealing with the enactment of the BBNJ new agreement, an analysis of several Indonesian policies related to ocean affairs was also conducted.

3. Results and Discussion

3.1. Legal Standing of BBNJ
Before analyzing the substantive and technical issues of BBNJ, it is important to discuss the relevant and accurate definitions of terms in accordance with the objectives of the BBNJ. Discussion of definitions is an important agenda in the meetings of the BBNJ Working Group. It is expected that the definitions drawn up for the new agreement do not contradict the existing definition in UNCLOS and other international agreements [8].

BBNJ deals with two international conventions, which are the UNCLOS and the Convention on Biological Diversity (CBD). There are several components of BBNJ using the UNCLOS adopted
definition. These include the Area, the Exclusive Economic Zone, the Continental Shelf, and the High Seas. UNCLOS defines:

the Area is “the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction” (Article 1(1));

the Exclusive Economic Zone (EEZ) is “an area beyond and adjacent to the territorial, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention” (Article 56). The EEZ shall not extend beyond 200 nautical miles from the baselines (Article 57);

the Continental Shelf is “…comprises the seabed and subsoil of the submarine areas… to a distance of 200 nautical miles from…” (Article 76(1)); and

the High Seas (“…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…” (Article 86). Figure 1 depicts the maritime zones schematic under the UNCLOS.

Another fundamental definition in BBNJ is “marine biological diversity”, which is not defined in the UNCLOS, but defined in the CBD. According to the CBD, biological diversity is defined as “the variability among living organisms from all sources including, inter alia, 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” (Article 2). This definition is used in the text is still being negotiated.

Based on these definitions, it can be concluded that the BBNJ is under the specific regime of “the Area” and the regime of “the High seas” of the UNCLOS. Therefore, BBNJ is closely related to the regime of Common Heritage of the Mankind (CHM), as it is stated in Article 136 UNCLOS that “the Area and its resources are the Common Heritage of the Mankind”. No State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources (Article 137 para.1). Hence, all the activities in the Area should be carried out for the benefit of mankind as a whole. (Article 140 para.1). To manage and control activities, including resource utilization in the Area, UNCLOS established a competent organization, which is the International Seabed Authority (ISA). The ISA is
established by UNCLOS as the competent organization in administering the prospecting and exploration of deep-sea mining in the Area [10].

Part VII of UNCLOS deals with issues relating to the high seas. The high seas include the water column beyond the EEZ of the coastal States are governed by the traditional principle of freedom of the seas. The basic premise of the freedom of the high seas is reflected in Article 87 UNCLOS. This Article provides a list of freedoms of the high seas, which include: (i) freedom of navigation; (ii) freedom of overflight; (iii) freedom to lay submarine cables and pipelines; (iv) freedom to construct artificial islands and other installations permitted under international law; (v) freedom of fishing, and (vi) freedom of scientific research. However, all freedoms are relevant to the BBNJ. The most relevant freedom of the high seas with regard to the issue of BBNJ is the freedom of fishing, freedom of marine scientific research, and the conservation and management of the living resources of the high seas [11]. Furthermore, due to the continuous degradation of the ocean, these freedoms have been progressively restricted. For example, in the freedom of fishing. The United Nations Fish Stock Agreement (UNFSA) that adopted in 1995 limits the freedom of fishing considerably in order to promote conservation and sustainable use of straddling and highly-migratory fish stock [12].

From the analysis of definitions and legal standing mentioned above, it can be drawn to the conclusion that the new agreement of BBNJ focuses on the utilization and conservation of living organisms that exist in the areas and cannot be put under any country’s sovereignty or sovereign rights.

3.2. Package deal components
Understanding the current state of the political and legal debate regarding the development of the new agreement of BBNJ is important for Indonesia. An understanding of the issues being debated in UNGA can strengthen Indonesia's position in the international political arena, particularly in international ocean affairs. One of the important issues debated in the BBNJ working group meetings is the "package deal". The package deal is a collection of issues recommended by the States to serve as the basis for the drafting of an international legally binding instrument (ILBI). These recommendations were submitted formally by the Co-chair of BBNJ Working Group to the President of the General Assembly on 30 June 2011 [13]. The ILBI will be elaborated and negotiated in the intergovernmental conference of an international legally binding instrument under the UNCLOS on the conservation and sustainable use of marine biological diversity of ABNJ.

The package deal comprised of four components, namely: (i). Marine genetic resources (MGRs) and access to benefits sharing; (ii). Area-based management tools (ABMTs), including marine protected areas (MPAs); (iii). Environmental impact assessments; and (iv). Capacity-building and the transfer of marine technology. The following sections describe the urgency of each component.

*Marine Genetic Resources (MGRs) and Access to Benefits Sharing (ABS).* The use of MGRs is not explicitly arranged by UNCLOS as they were a relatively new concept when the UNCLOS was developed [14]. As a result, there is a lack of clarity on the application regime with regard to bioprospecting and equitable benefit sharing of the exploitation of MGRs in ABNJ [15]. Bioprospecting is also known as biodiversity prospecting is a systematic finding for biochemical and genetic information in natural sources that can be developed into commercially-valuable products for pharmaceutical, agricultural and other applications [16]. Bioprospecting plays a dominant role in discovering leads for drug development since the existing knowledge of compounds for developing drugs for human use is limited. Bioprospecting is becoming the most contentious issue in several meetings of the preparatory committee.

Until now, there is no consensus on fundamental provisions whether the MGRs collected in ABNJ is recognized as a common heritage or not. The meetings were divided into two groups with different
opinions, namely the group of developed countries on one side and the developing country group (G77) with China on the other side. The G77 and China argue that MGRs should be regarded as part of the CHM and subject to a similar access and distribution regime as that which applies to the mineral resources of the Area under the Part XI of UNCLOS. To support their argument, they point to UNGA Resolution 27/49 of 12 December 1970 which declares all resources of the Area to be “the common heritage of mankind” and assert that this should include living resources as well as mineral resources. This opinion is a basic reason for the establishment of the benefit-sharing mechanism [17] [18].

On another side, developed countries, including the USA, the Russian Federation, Australia, Iceland, and Norway argued that MGRs in the Areas do not part of the CHM regime developed in Part XI of UNCLOS but rather under the freedom of the high seas regime in Part VII of the same convention. Consequently, they argue that access to these resources uses the principle of "first come first serve" therefore, there is no obligation to share the benefits derived from their exploitation [19].

The debates of MGRs in Preparatory Committee meetings also deal with the issues regarding Intellectual Property Rights (IPRs) [20]. The issues stem from the discovery of new oceanographic technology, which allows scientists and researchers to collect MGR samples from deeper and more remote ocean areas than ever before.

The laboratory testing on the MGR samples from the deep-sea waters shows that the marine organism is 100% more potent than the terrestrial organisms in curing cancers. It is believed by many scientists that can provide future cures, so it will generate substantial revenue to pharmaceutical companies [21]. Regrettably, the oceanographic expedition requires an expensive cost, estimated at one billion dollars per expedition. Furthermore, the collection of MGRs in deep-sea waters also requires advantage technologies that mostly monopolized by developed countries. Accordingly, only very few countries that mostly are developed countries could have conducted the oceanographic expedition in the deep-sea area, included ABNJ.

The number of oceanographic expeditions is correlated directly with the number of patent claims generated from MGRs produced by developed countries. Such oceanographic expeditions can result in the discovery of several new kinds of MGRs that valuable genetic material has been extracted and adapted for use in pharmaceutical [22]. The large number of patented genetic material obtained from oceanographic expeditions causes an imbalance between the number of patents produced by developed and developing countries. A recent study on global genetic resources reveals that 90% of global patents generated from marine genes owned by ten countries, with 70% of them belong to the USA, Germany, and Japan [23]. The unbalancing of the owned patents generated from the MGRs has created equity problems for many developing countries [24].

The IPR issue is interconnected with the CHM and ABS issues. The ABS issues deal with both monetary and non-monetary benefits from the development of commercially viable products from MGRs. The ABS concept actually has been applied in the Convention on Biological Diversity (CBD) through the Nagoya Protocol (Article 10). The Nagoya Protocol provides indicative lists of monetary and non-monetary benefits. However, according to Articles 15 paras.1, 4, and 5 of the CBD and Articles 5 and 6 of the Nagoya Protocol, the ABS mechanism is established based on State sovereignty over their genetic resources and is carried out using a bilateral approach. Since no state has sovereignty over MGR from ABNJ, the ABS mechanism of the CBD and its Nagoya Protocol is not applicable [25].

In this regard, Article 10 of the Nagoya Protocol actually arranges a global multilateral profit-sharing mechanism to regulate the fair and equitable sharing of benefits derived from the utilization of genetic resources that occur in transboundary situations. Unfortunately, this provision does not define clearly what is meant by a "transboundary situation", and in what "situations" this mechanism can be used? This triggered a dispute to include the MGR from ABNJ under this provision. Based on this
analysis, it can be concluded that the development of a global multilateral benefit-sharing mechanism under the Nagoya Protocol, depends entirely on the will of the Parties that still needs to be built [26].

The issues mentioned above are the issues related to the MGR and ABS regimes that must be discussed and negotiated by States. These are critical issues that have to be addressed and translated into the new agreement of BBNJ.

**Area-based management tools (ABMTs), including Marine Protected Areas (MPAs).** ABMTs are one of the four components of ILBI that will be discussed and negotiated in an intergovernmental conference at the UN General Assembly. Before reviewing the issues related to ABMT discussed in preparatory meetings on the development of BBNJ’s new agreement, it is important to understand the term ABMT and its other related definitions.

There is no universally accepted definition of ABMT. However, they generally accepted that it deals with spatial and non-spatial tools, protection of a specific area, and regulations. The IUCN defines the ABMTs as: “the regulations of human activity in a specified area to achieve conservation or resource management objectives” [27]. Furthermore, IUCN divided the ABMTs into three categories, namely: sectoral tools, marine spatial planning, and marine protected areas [28].

The sectoral ABMTs were developed by global and regional sectoral organizations that have mandated enhanced protection to specific areas in ABNJ. Traditionally, the aims of sectoral ABMTs are to achieve better resources and environmental management. Currently, some sectoral ABMTs are practicing in ABNJ. For example, the International Maritime Organization (IMO) through the International Convention for the Prevention of Pollution from Ships (MARPOL) establishes Particularly Sensitive Sea Areas (PSSAs) to control maritime activities of their member’s flagships. The International Seabed Authority (ISA) develops Areas of Particular Environmental Interest (APEI) to ensure that mining activities on the seabed do not have an impact on the representation and stability of marine life on the seabed. The UN Fish Stock Agreement through several Regional Fishery Management Organizations (RFMOs) develop the Vulnerable Marine Ecosystems (VMEs) to control the bottom fisheries in ABNJ [29].

It is widely recognized that MPA is a key tool for biodiversity conservation. The CBD defines a protected area is: “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (Article 2). Currently, there are 12 high seas MPAs (HSMPAs) located in the Southern Ocean and the North-East Atlantic. Two HSMPAs in the Southern Ocean were established by regional management bodies under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and ten (10) HSMPAs designated by the OSPAR Convention and the North-East Atlantic Fisheries Commission (NEAFC) [30].

Apart from the MPAs in the high seas, there are also management tools that have been practiced globally. The CBD establishes a set of scientific criteria for identifying areas of ecological or biological importance (EBSA) that are considered priority areas for conservation. The CBD defines EBSAs as: “geographically defined areas that have higher significance to one or more species of an ecosystem as a whole, compared to other areas of similar bathymetric, latitude, and general ecological characteristics. Management of human activities in Ecologically or Biologically Significant Areas needs to be particularly effective because of the higher potential or more lasting consequences of harm at that location and also greater potential for long-term benefits obtained by effective management.”

The EBSAs are established based on seven criteria, including “uniqueness or rarity”, “special importance for life-history stages of species”, “importance for threatened, endangered or declining species and/or habitats”, “vulnerability, fragility, sensitivity, or slow recovery”, “biological productivity”, “biological diversity”, and “naturalness” [31].
However, the MPA is not a perfect tool. The MPAs particularly in remote areas such as the ABNJ and high seas often face monitoring and control problems. Currently, there is no formal regime for designating MPAs on the High seas and the Areas. UNCLOS does not provide the mechanism for establishing MPAs. The UNCLOS only arranged the obligation to conserve living resources in the EEZ (Article 61) and in the high seas (Article 119); and the general obligation of States to protect and preserve the marine environment (Article 192 of Part XII). Originally, the CBD provided such a mechanism of the protected area, but it is not applicable to ABNJ [32]. According to Article 4 of the CBD regarding Jurisdictional Scope stipulates that the provisions of the Convention apply, in relation to each Contracting Party: (a) In the case of components of biological diversity, in areas within the limits of its national jurisdiction; and (b) In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction. These provisions clearly regulate the obligation to establish an MPA within the territory and jurisdiction of the country. Although there are several provisions of the Convention that stipulate the obligation to the States not to carry out activities in ABNJ that can damage biodiversity, there is no provision that regulates the obligation to the States to establish the protected areas on the high seas.

Based on the explained issues above, it is clear that most of the existing MPAs in ABNJ and high seas are designated through the sectoral approach. There is no global framework to establish MPAs in ABNJ or the high seas. There is a strong interest in the international community to establish multi-purpose MPAs in ABNJ. Therefore, the ABMT including MPA is also one of the key issues in BBNJ working group meetings.

Environmental Impact Assessment. Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) are tools intended to incorporate environmental considerations into decision-making by delivering “clear, well-organized information on the environmental effects, risks, and consequences of development options and proposals” [33]. The EIA is an important tool for the application of the precautionary principle.

Discussing environmental and other impact assessments is difficult without clarity on terminology. In this paper, the terms of EIA and SEA cited from the international conventions. According to the CBD, the EIA is: “a process of evaluating the likely environmental impacts of a proposed project or development taking into account inter-related socio-economic, cultural and human health impacts, both beneficial and adverse” [34]. The Kiev Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (2003) defines the SEA is: “the evaluation of the likely environmental, including health, effects, which comprises the determination of the scope of an environmental report and its preparation, the carrying-out of public participation and consultations, and the taking into account of the environmental report and the results of the public participation and consultations in a plan or programme” (Article 2 para. 6). Based on the scope of activities EIA is applicable at the project level, while SEA applies to the environmental implications of broader strategic policy decisions [35].

UNCLOS provides a general obligation of the States to conduct EIA when they have “reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment” (Article 206). The obligation to carry out EIA may also form of international customary law, including for activities in ABNJ [36]. It is however, this requirement has been sparsely and poorly implemented and some important gaps remain. The poor implementation could be the lack of details provided by UNCLOS regarding the minimum standards for EIAs, and the lack of reporting mechanisms. Only a few sectoral intergovernmental organizations have developed specific requirements to conduct EIAs for human
activities in ABNJ. These include several RFMOs for deep-sea bottom fisheries, the ISA for the exploration of seabed mining in the Area, and the Contracting Parties to the London Convention and its Protocol for the dumping of wastes and ocean enrichment [37].

On the basis of the preceding analysis, it can be concluded that there are, currently, no global requirements for IEA and SEA in ABNJ. The lack of an environmental assessment regime is one of the issues that have to be addressed and translated into the new agreement of BBNJ.

**Capacity-building and Transfer of Marine Technology.** Capacity-building and transfer of marine technology are cross-cutting issues of BBNJ’s new agreement. There is a close link between capacity-building and marine technology transfer. Transfer of marine technology is a key part of capacity building or 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 BBNJ new Agreement [38].

The legal standing of capacity development and transfer of marine technology of international ocean affairs is primarily referred to the entire Part XIV of UNCLOS that contains detailed provisions of the duties of States to promote development and transfer of marine technology (Article 268). This section also contained provisions on how to achieve the objectives. Meanwhile, the legal status of the duties of conducting the transfer of marine technology in ABNJ is regulated in Article 144 of UNCLOS. Besides these provisions, UNCLOS also provides other provisions related to the duties of States to conduct capacity development and transfer of technology activities. The provisions are Part XII on the Protection and preservation of the marine environment; and Part XIII on Marine scientific research (MSR).

These provisions were complemented by Criteria and Guidelines on the Transfer of Marine Technology adopted by the Intergovernmental Oceanographic Commission (IOC) in 2003. However, a clear legal regime and adoption of a number of tools on the Transfer of Marine Technology are not sufficient to get good results. The implementation of these provisions nonetheless remains limited. It was noted by several delegations of the 11th meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP) in 2010 that the transfer of marine technology was essential for capacity-building in particular in marine science and that this section of UNCLOS is “the part with the greatest gap in implementation” [39]. It is, therefore, that the issues of capacity-building and transfer of marine technology are also one of the issues that have to be discussed and translated into the new agreement of BBNJ.

### 3.3. Indonesia facing the ABNJ

Indonesia is considered the largest archipelago in the world. Geographically, Indonesia is located between two oceans, the Pacific Ocean in the Northeast and the Indian Ocean in the West. Indonesian waters also border with the South China Sea in the North as well as the Andaman Sea in the Northwest. These oceans that surround Indonesian waters are vast areas beyond national jurisdiction.

It is widely recognized that the oceans surrounding Indonesia waters rich in marine natural resources. Various oceanographic expeditions in the Indian Ocean [40] [41] and Pacific Ocean [42], as well as in the South China Sea [43] reveal that these areas are the richest oceans notwithstanding those which have not been discovered yet. In the Indian Ocean alone, various research has discovered the existence of numerous deep-sea habitats including abyssal plains, oxygenated slopes and basins, seamounts, and trenches. The studies also found the remarkably rich and diverse micro-, meio-, macro- and megabenthic communities on the abyssal seafloor [44]. It is also known that the Eastern Indian Ocean is the spawning ground of *southern bluefin tuna*. However, due to overexploitation, the population of this species has declined considerably over the last decade [45].
Indonesian waters are part of the Coral Triangle (CT) region, which is known as the richest area of marine biodiversity of the Earth. The CT is a host for a number of corals, crustaceans, mollusk, marine plant species, and thousands of species of fish. The CT is the highest coral diversity in the world, where 76% or 605 species of the world’s reef-building coral species are found in this area. The CT has more coral reef fish diversity than anywhere else in the world, more than 2,200 species or 36% of the world’s coral reef fish are found in this area [46].

Each ocean has distinctive general oceanographic features, but there are no boundaries between them. Marine ecosystems do not follow the maritime boundaries or maritime zone as determined by international law. Therefore, marine biota with potential for pharmaceuticals found in the edge of Indonesia’s jurisdiction may also exist in ABNJ. Therefore, special arrangements are needed to manage such kinds of biodiversity.

The existence of a new agreement of BBNJ will provide an opportunity for Indonesia to obtain the monetary and non-monetary benefits from marine resources that exist at the end and beyond Indonesia’s jurisdiction.

On the basis of the above analysis, it can be suggested that Indonesia can initiate the development of MPAs in BBNJ sites. There are four proposed sites as the MPAs sites or multi-purpose MPAs. Two sites in the Indian Ocean, one site in the Pacific Ocean, and one site in the Andaman Sea (figure 2). The Indian Ocean sites are the most potential sites because it directly faces the high seas. Meanwhile, the other two sites in the Pacific Ocean and the Andaman Sea are considered potential sites. Although these areas facing the high seas, these sites also border with other countries, such as the site in the Andaman Sea borders with two countries, India and Thailand, while in the Pacific Ocean, it borders with Palau.

**Figure 2.** Potential locations for “Indonesia’s BBNJ or multi-purpose MPAs” note: the red line is the most potential site, the yellow line is the potential site

3.4. The benefits of BBNJ new agreement for Indonesia

The route towards an agreement on BBNJ's international legally binding instruments is still long and winding. Discussion and negotiation on this new agreement was temporarily suspended due to the outbreak of Covid-19, but it will be continued in the future.

The following sections are based on the assumption that negotiations have positive outcomes in the interests of developing countries. Indonesia is part of a group of developing countries. If this happens,
the adoption of the BBNJ new agreement will generate some benefits for Indonesia. These include (i) Benefits to access MGRs, including monetary and non-monetary benefit-sharing; (ii) Benefit to obtain capacity development; and (iii) the benefits generated from the establishment of multi-purpose MPA in ABNJ.

3.4.1. Benefit to access MGRs, including monetary and non-monetary benefit-sharing. The abundance of MGRs that exist in internal waters and the areas beyond Indonesia's jurisdiction do not mean that they are easily utilized. To access the MGRs in deep-sea requires intensive capital and advanced technology. Currently, Indonesia has not been able to carry out deep-sea exploration activities. Indeed, many oceanographic expeditions have been carried out by Indonesian researchers, but most of the expeditions were carried out in shallow waters. Indonesia does not have sufficient capacity to conduct deep-sea expeditions properly. It is not easy to explore and sampling in extreme conditions such as the Indian Ocean which has a depth of 4,000 to 6,000 meters. Such activities require sophisticated research equipment and not many countries have such equipment.

The incoming new agreement of BBNJ will provide Indonesia and developing countries rights to access MGRs that exist in ABNJ. This right will provide an advantage for Indonesia to have knowledge of all MGRs in ABNJ, whether they are potentially or not for pharmaceuticals and cosmetics.

As discussed above, marine living resources found in ABNJ may also be found in Indonesian jurisdictional waters. Therefore, the knowledge of MGRs that potentially for medicinal and cosmetic materials will provide an opportunity for Indonesia to develop genetic materials into medicines and cosmetics by themselves, because these species may also exist in Indonesian waters.

Other benefits regarding the MGRs are the monetary and non-monetary benefits. Until now, however, the mechanism of fair and equitable sharing of benefits is still being debated by States, particularly monetary benefit sharing. The expensive cost for obtaining MGRs in ABNJ and the long route to develop a commercial product causes long debate on monetary benefits sharing. This is exacerbated by the blurred distinction between commercial and non-commercial research. In practice, sampling expeditions in ABNJ generally tend to be non-commercial, or at least their objectives are not solely commercial. This makes them difficult to distinguish.

Therefore, it is difficult to determine how the monetary benefit-sharing mechanism will be determined. Do the exploitation parties (the developed countries) have to pay for what they do or take at ABNJ or do they not pay at all? If it is obliged to pay, to whom the payment will be made, whether directly to the country of origin or through the Endowment Funds system. All of these things depend on the negotiations to be carried out by States.

Regardless, the issue of monetary benefit-sharing, the immediate benefits from MGRs to the developing countries are the non-monetary benefits. Based on the most of existing proposals from States, the non-monetary benefit-sharing will be in form of the access to publications, data and information, and knowledge and technology transfers.

3.4.2. The benefit to obtaining capacity-building and transfer of marine technology. As discussed above that there is a close linked between capacity building and technology transfer, therefore, in these senses, talking about capacity building means also talking about transfer technology or vice versa. Capacity building and the transfer of marine technology are the classic issues that have been discussed since the adoption of the UNCLOS in the 1980s. All parties, particularly developing countries have voiced that capacity building is an important issue that should be resolved immediately because it relates to equality issues, but the progress is very slow.
Through the adoption of the BBNJ new agreement and followed by effective supervision and compliance, it is expected that capacity building and transfer of marine technology activities can be carried out appropriately in accordance with existing regulations. If this can be realized, Indonesia and other developing countries will benefit in the form of capacity building and marine technology transfer programs.

The form and criteria of marine technology have been clearly specified by the IOC UNESCO. Marine technology refers to instruments, equipment, vessels, processes, and methodologies required to produce and use knowledge to improve the study and understanding of the nature and resources of the ocean and coastal areas. In these senses, marine technology includes: (a) Information and data in a user-friendly format on marine sciences and related marine operations and services; (b) Manuals, guidelines, criteria, standards, reference materials; (c) Sampling and methodology equipment (e.g., for water, geological, biological, chemical samples); (d) Observation facilities and equipment (e.g., remote sensing equipment, buoys, tide gauges, shipboard, and other means of ocean observation; (e) Equipment for in situ and laboratory observations, analysis, and experimentation; (f) Computer and computer software, including models and modeling techniques; and (g) Expertise, knowledge, skills, technical/scientific/legal know-how, and analytical methods related to marine scientific research and observations [47].

Those are the benefits that will be obtained by Indonesia and other developing countries, but with a note that it can be realized if the international competent bodies carry out the strict and consistent controlling and on the other hand the exploitation parties also comply with the existing regulations. **Benefits generated from the establishment of multi-purpose MPA in ABNJ.** As previously discussed, the adoption of the BBNJ new agreement could be used by Indonesia to initiate the establishment of a multi-purpose MPA in several ABNJs bordering Indonesia's jurisdiction, such as in the Indian Ocean, the Andaman Sea, and the Pacific Ocean. Besides conservation purposes and sustainable ocean management for the international community interest, establishing a multipurpose MPA at ABNJ will also provide many benefits for Indonesia. Besides providing non-monetary benefits, such as access to publications, data, and information as well as knowledge and the transfer of marine technology, the establishment of a multipurpose MPA will also provide other benefits for Indonesia, which is "political recognition".

The MPA to be built at ABNJ is expected to be able to accommodate the functions of other types of protected areas built by international sectoral bodies, such as PSSAs by IMO, APEI by ISA, and VME by RFMO. The multi-purpose MPA should clearly accommodate the main provisions of each MPA, such as routering measures and other specific maritime measures arranged by PSSAs; and the management response measures to address the impact of deep-sea high seas fisheries provided by VME. Through the establishment of a multi-purpose MPA in ABNJ, Indonesia will also be actively involved in several sectoral international bodies. The Indonesian involvement in many international bodies will provide political benefits for Indonesia. Indonesia will be better recognized. Political recognition is an important thing in the world geopolitical fora. Political recognition is one of the assets to be recognized as one of the world's maritime powers.

It is reasonable for Indonesia to be one of the world's maritime powers. Indonesia is the largest archipelagic state in the world, which has sea jurisdiction and EEZ of about 5.8 million square kilometers, and a total coastline of more than 99,000 km, which is the second-longest in the world after Canada. Indonesia is the 4th largest population in the world. For this reason, the momentum of the BBNJ new agreement should be used by Indonesia to initiate the establishment of a multi-purpose MPA in ABNJ bordering Indonesia's jurisdiction, because it provides benefits for Indonesia, one of which is political recognition from other countries towards Indonesia.
3.5. Policy implication and possible solutions
Besides providing some benefits, the adoption of the BBNJ new agreement may also impact Indonesia's interests. There are two main problems that should be addressed by Indonesia after the enacting of the BBNJ agreement. The problems include, (i) conflict of authority overexploitation of MGRs on Indonesia's extended continental shelf; and (ii) lack of marine research capacity. The following is a description of the problem analysis and possible options solution.

3.5.1. Conflict of authority overexploitation of MGRs on Indonesia's extended continental shelf. In 2008, Indonesia submitted a claim to the Commission on the Limits of the Continental Shelf (CLCS) for the extended continental shelf beyond 200 nautical miles in the northwest of Sumatra Island. The proposal was approved by CLCS in 2011. This approval gives Indonesia an additional continental shelf area of approximately 4,209 square kilometers. Meanwhile, Indonesia has also already submitted the extended continental shelf for the area in North Papua [48].

As stipulated in Article 77 UNCLOS, the coastal state has sovereign rights over the continental shelf to explore and exploit natural resources, both mineral and non-living resources that exist on the seabed and sub-soil. However, Article 78 of the same convention, it also regulates that the rights of the coastal State over the continental shelf do not affect the legal status of superjacent waters or air space above these waters. From these two provisions, it can be concluded that the coastal state has sovereign rights over the continental shelf and all existing resources above the sea bed and in the sub-soil, but has no right to exploit the existing living resources in the water column above it. The utilization of natural resources that exist in the water column above the continental shelf is regulated under the high seas regime.

Under this circumstance, the adoption of BBNJ’s new agreement may result in overlaps between Indonesia's extended continental shelf and superjacent waters as regulated in the high seas regime. As explained above, one of the reasons for the development of the BBNJ’s new agreement was to regulate the use of MGRs in ABNJ. Based on available scientific information, the MGRs are not only found in the water column but are even more commonly found on the ocean floor which has extreme conditions. In this regard, it is almost certain that the exploration and exploitation of MGRs will be carried out from the water column until the ocean floor. This can lead to the conflict between Indonesia as a country that has sovereign rights over the extended continental shelf and a country that has received permission to explore and exploit marine resources in ABNJ.

To anticipate this problem, Indonesia must pay attention when the drafting of the articles regulating the right to exploit MGR in ABNJ. It must be clear whether exploration and exploitation activities can be carried out from the water column until the seabed of a country's extended continental shelf or not. Indonesia can refuse the exploration and exploitation activities on the seabed of Indonesia's extended continental shelf. There will likely be a debate arising. Indonesia can argue that based on the provisions of Article 77 para. 4 UNCLOS stated that the natural resources which include minerals, non-living resources, and sedentary species on the seabed of the continental shelf are belonging to the coastal state. Therefore, it is not allowed for other countries to exploit the natural resources that exist on the seafloor of Indonesia's extended continental shelf, without prior consent from Indonesia. However, considering the unavailability of Indonesia's capacity to access MGRs in the deep sea and to maintain good relations with all parties, Indonesia could also accept a proposal to carry out exploitation activities on Indonesia's extended continental shelf, with clear benefit-sharing, both monetary and non-monetary benefits.

3.5.2. Lack of marine research capacity. The discussion on BBNJ’s new agreement is not only related to international maritime law but also deals with marine research capacity. As discussed above, it is
not easy to explore and exploit MGR in deep-sea waters with extreme conditions. Besides requiring large funds, these activities also require the expertise of various aspects and adequate marine research facilities with advanced technology. It is sad to say that currently, Indonesia lacks marine research capacity.

For example, to carry out the research of geological, biological, chemical, and physical oceanographic in the high seas or ABNJ with strong waves and currents is required a research vessel with a minimum length of 80 meters and should be completed by various survey equipment with advanced technology because they work in extreme conditions. Currently, Indonesia does not yet have a research vessel with a length of 80 meters. The construction of a modern research ship with a length of 80 meters requires a lot of funds and a long time.

Additionally, most marine survey equipment is very expensive. An example, the Remotely Operated Vehicle (ROV) for deep-sea research, survey equipment for exploring underwater habitats and animals that equipped with a video camera, lights, and a robotic arm to capture underwater specimens, which is valued at more than US$ 6 million. Therefore, only a few research institutes in the world have this equipment, majority-owned by research institutes and universities from developed countries such as the United States, Germany, Japan, and China. Indeed, currently, Indonesia already has an ROV but only for shallow water research. This is a challenge for Indonesia to address its problems on marine research capacity.

There are two possible solutions, include short and long terms research capacity improvement programs. The first is the short terms research capacity improvement programs. In the current situation, where the world including Indonesia is experiencing the Covid-19 pandemic, it is difficult for Indonesia to invest massively in the marine research sector. As happened in many countries in the world, the Indonesian economy was also severely affected by the Covid-19 pandemic. The state budget runs a huge deficit. Presidential Regulation Number 54 of 2020 regarding the posture changes and details of the 2020 State Budget states that the Covid-19 pandemic has caused the 2020 State Budget a deficit of IDR 852.935 trillion (US$ 61 billion) or 5.07% of GDP.

Conducting marine research collaborations with developed countries is an appropriate way in the current situation. There are several research topics that are currently interested by research institutions of developed countries to collaborate with research institutions from developing countries of the tropical areas. The topics of interest include ocean protection and conservation; marine biodiversity; and global climate change.

Besides benefiting from collecting oceanographic data and information on a particular area, the research cooperation also will improve the capacity of Indonesia's scientists in doing research in deep-sea waters. Sometimes research collaborations also include capacity building for both personnel and institutions. Capacity building programs for personnel are usually in the form of training, education, internship, joint publication, and seminars. Meanwhile, institutional capacity-building programs are usually in the form of research facilities assistance such as research equipment.

It is believed that many research institutions from developed countries that are willing to cooperate with Indonesia in the marine research sector. Experience so far has shown that Indonesian researchers have collaborated with many marine research institutions in the world. Recently, the Research Centre for Oceanography - LIPI conducted a joint expedition with a research institute of Singapore, with a focus on marine biodiversity research in Southern Java (Indian Ocean). The expedition with the title of the South Java Deep-sea Biodiversity Expedition 2018 was carried out by scientists from Indonesia, Singapore, and France. The expedition is non-commercial research, with a focus on marine biodiversity research in deep-sea waters. This expedition was fully financed by Singapore. Some of the benefits obtained from this joint expedition include the knowledge of marine biodiversity in South Java, Indian Ocean; increasing the capacity of Indonesian researchers in conducting field surveys in
deep-sea waters and laboratory analysis; and a number of scientific publications [49] [50]. Through this way, it is also expected that the issue of the establishment of multi-purpose MPA in ABNJ whether in the Indian Ocean or the Pacific Ocean might be realized.

The second option that can be taken by Indonesia to address the issues of marine research capacity is the development of long terms capacity improvement programs. With more than two-thirds of its territory, it is reasonable for Indonesia to prioritize the marine sector in its national development program. Research is a key part of any development program, including in the marine sector. Therefore, it is necessary for Indonesia to improve its capacity in the marine research sector. Investing in purchasing marine research facilities, such as research vessels and other oceanographic research equipment is not a waste.

The provision of marine research facilities is intended to fulfill the national interest of Indonesia. Indonesia really needs these infrastructures. There are many marine waters in Indonesia, particularly deep-sea waters, so far, their biodiversity has not been revealed yet, due to the limited research facilities, such as the Banda Sea. On the other hand, having a modern research vessel and research equipment is a national pride and will elevate Indonesia's dignity in the nations of the world. The availability of qualified research vessels will support Indonesia’s progress in the international arena. This vessel can also be used to establish multi-purpose MPAs in ABNJ. Therefore, it is highly recommended for Indonesia to build a qualified research vessel equipped with modern oceanographic research equipment in its national development programs to serve marine research activities in the high seas and deep seas.

4. Conclusion

Historically Indonesia has been actively involved in the creation of UNCLOS. Indonesia is one of the initiators of the archipelago states regime in UNCLOS. Indonesia was also a supporter of the development of the common heritage of mankind regime in the seabed area during the conference of the law of the sea from 1973 to 1982. This is in line with the preamble of the Indonesian Constitution of 1945 that mandated Indonesia to be actively involved in the preservation of the world’s peace and preserving international order. Given this history and many benefits obtained by Indonesia as a member country of UNCLOS, it is necessary for Indonesia to support the development of the BBNJ new agreement.

The development of the BBNJ new agreement is very important for Indonesia as it will allow Indonesia to get a fair and equal share of benefits generated from the exploitation of MGRs in ABNJ with other nations in the world. However, there are still other issues that must be considered by Indonesia in the drafting of the BBNJ agreement, which is the issue of the authority to exploit MGRs on the extended continental shelf, as it is known that the Indonesian proposal for the extended continental shelf in North West Sumatra at the Indian Ocean has been approved by the CLCS.

In spite of the many benefits generated by the BBNJ, this legal instrument is extremely complex because many aspects are arranged. The BBNJ is an international legally binding instrument under UNCLOS, but it will also be used by other international legal instruments, such as CBD. This has made the BBNJ agreement very complex. Therefore, BBNJ must be treated with a comprehensive approach.

Besides, paying attention to the discussion and negotiation on the drafting of the new BBNJ agreement, to anticipate the entry into force of this new treaty, Indonesia should develop strategic planning. The strategic plan should have consisted of some strategic activities such as the harmonization of some existing regulations; the development of the national long-term program of marine research in order to fulfill the national needs of marine research infrastructure; and the public socialization of BBNJ that
involved all stakeholders included, the law of the sea experts, marine scientists, and other related experts.

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