A PERUVIAN PERSPECTIVE FOR THE CONSERVATION AND SUSTAINABLE USE OF MARINE BIOLOGICAL DIVERSITY IN AREAS BEYOND NATIONAL JURISDICTION

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ABSTRACT

One of the biggest current challenges for the international community is the need to protect marine biodiversity in ABNJ. This issue is currently in the center of numerous debates in several international fora given that it seems that the current legal framework is not completely appropriate and efficient to address the threats and diverse impacts linked to human activities in these areas. In this regard, the proposal for a multilateral agreement under UNCLOS on the conservation and sustainable use of marine biodiversity in ABNJ is an option which has gained support from a certain group of states in recent years.

Peru is a megadiverse country and, in the case of sea, its marine areas represent one of the most productive and richest ecosystems of the world. At the moment, however, there is no national position among the Peruvian government agencies regarding the conservation and sustainable use of marine biodiversity in ABNJ. Peru requires a unified and coherent national position for the achievement of the efficient protection for marine biodiversity in ABNJ.

This research examines broadly the aspects of a Peruvian maritime foreign policy for the 21st century, and then it focuses on the elements for the development of an international legal regime for the conservation and sustainable use of marine biodiversity in ABNJ from a Peruvian perspective.

ABBREVIATIONS

ABS	Access and benefit-sharing
ABNJ	Areas beyond national jurisdiction
Area	The seabed and ocean floor and subsoil beyond the limits of national jurisdiction
'BBNJ Working Group'	Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction
CBD	Convention on Biological Diversity
CGTMT	IOC Criteria and Guidelines on the Transfer of Marine Technology
COP	Conference of the Parties
CPPS	Permanent Commission for the South Pacific
EBSA	Ecologically or Biologically Significant Marine Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
ICJ	International Court of Justice
ICP	Open-ended Informal Consultative Process on Oceans and the Law of the Sea
IMO	International Maritime Organizations
IOC	Intergovernmental Oceanographic Commission
ISA	International Seabed Authority
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature
IUU Fishing	Illegal, Unreported and Unregulated Fishing
MPA	Marine Protected Area
NGO	Non-governmental organization

OBIS	Oceanic Biogeographic Information System
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
SEA	Strategic Environmental Assessment
SMTA	Standard Material Transfer Agreement
SPRFMO	South Pacific Regional Fisheries Management Organization
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Program
VME	Vulnerable Marine Ecosystem

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INTRODUCTION

> *Let us also mention the system of governance of the oceans. International and regional conventions do exist, but fragmentation and the lack of strict mechanisms of regulation, control and penalization end up undermining these efforts. The growing problem of marine waste and the protection of the open seas*[*] *represent particular challenges. What is needed, in effect, is an agreement on systems of governance for the whole range of so-called "global commons".*
>
> Encyclical Letter *Laudato Si'* of Pope Francis (2015)

Background

For many centuries, it was believed that the resources in the oceans were inexhaustible. It was also believed that the capacity for the oceans to withstand human activities was unlimited. The unregulated environment favored by that misunderstanding led to the degradation and indiscriminate exploitation of the marine resources. As a consequence of that, many stocks of once abundant living resources became extinct or on the verge of extinction, besides the destruction of their marine habitats.

In addition, it was assumed that marine life on the seabed beyond the limits of national jurisdiction was virtually non-existent. However, relatively recent scientific discoveries, technological advances and the depletion of coastal resources, have increased interest in both the high seas and the seabed beyond national jurisdiction and led to the expansion of human activities across the oceans.

Along with the most traditional activity over the oceans – fishing –, there are certain emerging practices that have started to attract attention. This is the case of the exploration and exploitation of mineral resources located in the seabed beyond national jurisdiction (known as 'the Area' in

[*] "The protection of the open seas" is translated as "the protection of marine areas beyond national frontiers" in the versions in other languages of the encyclical.

the United Nations Convention on the Law of the Sea – UNCLOS) and, more recently, bioprospecting, which is a steadily increasing activity[†]. Precisely, the latter is currently one of the sources of major debates among the international community regarding the need of developing a legal regime for the conservation and sustainable use of marine biological diversity[‡] in areas beyond national jurisdiction (ABNJ).

Is UNCLOS actually a comprehensive framework for every activity taking place in the oceans and seas? Although UNCLOS is considered to be a cornerstone of the international law of the sea, it is, as any legal text, a product of its time and therefore it is not the end of legal regulation in the field of the law of the sea[§].

In recent years, growing concerns over the adequacy of the existing legal framework for the conservation and sustainable use of biodiversity in ABNJ have led to discussions under the auspices of the United Nations General Assembly on the possible development of a new international legal instrument. In 2011, the Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction (the 'BBNJ Working Group') identified a package of issues that could be addressed, together and as a whole, namely: (a) marine genetic resources, including questions on the sharing of benefits, (b) measures such as area-based management tools, including marine protected areas, (c) environmental impact assessments, and (d) capacity-building and the transfer of marine technology[**].

Why does this matter should be interested to Peru? There are at least two main reason. Firstly, Peru is a megadiverse country and, in the case of sea, its marine areas represent one of the most productive and richest ecosystems of the world[††]. Nevertheless, there is no national position among the Peruvian government agencies[‡‡]regarding the conservation and sustainable use of marine biodiversity in ABNJ. It is essential for them to have a clear understanding about this

[†] See below, pp. 34 and 73.
[‡] Referred to as 'marine biodiversity' hereinafter.
[§] See below, chapter 2.1.1.a).
[**] See below, chapter 4.
[††] See below, chapter 1.1.1.
[‡‡] These agencies are the following: Ministry of Foreign Affairs, Ministry of Environment, Vice Ministry of Fisheries, Ministry of Foreign Trade and Tourism, the Peruvian Institute of the Sea (IMARPE) and the National Institute for the Defense of Competition and Protection of Intellectual Property Rights (INDECOPI).

topic. Secondly, since there is currently a series of threats to marine ecosystems in ABNJ (namely, marine pollution, environmental degradation, destructive fishing practices, among others), Peru requires confronting these pressures through a unified and coherent national position for the achievement of the efficient protection for marine biodiversity in ABNJ. It is a well-known fact that the oceans are a complex set of interconnected parts that operate as a whole, and that some human activities could have a severe impact on this system, whether they happen in areas within or beyond national jurisdiction.

In this regard, Peru needs to articulate a coherent position among its national institutions in order to achieve an optimal participation in the international fora where the issue of marine biodiversity in ABNJ is under discussion.

Purpose

The purpose of this thesis, from the author's point of view, is to provide the Peruvian government agencies with some issues related marine biodiversity in ABNJ in order to contribute to a more comprehensive understanding of it. To this end, it was required to present a brief review of the Peruvian maritime interests in areas within and beyond national jurisdiction, always having in mind that the oceans are physically and biologically connected in spite of the legal division of the ocean space in the contemporary law of the sea.

It is also intended to contribute to the development of a common national perspective for the conservation and sustainable use of marine biodiversity in ABNJ. This is certainly such a complex issue and the author's objective is no other than to show broadly some aspects of marine biodiversity in ABNJ that might be of interest for Peru. That is why it is also suitable to recount what has been done so far at the international level.
Finally, the objective of this research is to provide some elements to the Peruvian delegation participating in the international fora regarding marine biodiversity in ABNJ (mainly the preparatory committee on the subject, which will start working from 2016[§§]) in order to support a national position on the formulation of a legal regime for its conservation and sustainable use. By stating this purpose, the author's position is that UNCLOS *per se* is not enough to regulate

[§§] See below, chapter 2.2.3.

comprehensively the new challenges faced by the law of the sea. Therefore, it needs to be complemented by a special legal regime.

Methodology

Due to the subject of the thesis, many of the chapters will be descriptive in order to understand the essence of marine biodiversity and its importance for a megadiverse country such as Peru. Thus, scientific reports and legal instruments (both binding and non-binding) will be reviewed to some extent. Throughout this work, it will be frequent to mention UNCLOS and other relevant instruments related to the present area of research.

Beside the international legislation, this thesis will analyze the discussions taking place at the relevant international fora, specially those under the auspices of the United Nations General Assembly.

Delimitation

This thesis is structured into two main parts and four chapters. Part One sets the scene by presenting the new challenges for the national ocean policy of Peru (chapter 1) and presenting the most relevant international instruments in the field of marine biodiversity in ABNJ as well as the work of the United Nations General Assembly on this matter (chapter 2).

Part Two focuses on the elements for the development of an international legal regime for the conservation and sustainable use of marine biodiversity in ABNJ from a Peruvian perspective. So then, the legal status of marine biodiversity in ABNJ and the current gaps in the existing legal framework are under analysis (chapter 3). Lastly, the 2011 ‘BBNJ Working Group’ package of issues is examined in some detail, providing suggestions in accordance with the interests of Peru where possible (chapter 4).

PART I

A PERUVIAN MARITIME FOREIGN POLICY FOR THE 21ST CENTURY

CHAPTER 1

NEW CHALLENGES FOR THE NATIONAL OCEAN POLICY OF PERU

1.1.Peruvian maritime interests in areas under national jurisdiction

1.1.1. Background and context (location, geographical and biological peculiarities)

Peru is a state located in western South America. It has borders with Ecuador and Colombia in the north, with Brazil in the east, with Bolivia in the southeast, with Chile in the south, and with the Pacific Ocean in the west. It has a total area of 1,285,216 square kilometers, being the third largest country in South America and one of the 20 largest countries in the world.

Figure 1. Map of Peru

Source: Central Intelligence Agency, "Peru", The World Factbook, 6 August 2015.
Available from https://www.cia.gov/library/publications/the-world-factbook/geos/pe.html

With a coastline of 3080 kilometers[1], in front of this region is present one of the most productive marine ecosystems in the world, mainly due to the presence of the Humboldt (or Peru) Current. It is a cold water current of the southeast Pacific Ocean, with a width of about 900 kilometers, relatively slow and shallow, that flows north from the southern Chile to northern Peru after

[1] FAO, "Fishery and Aquaculture Country Profiles. The Republic of Peru", 1 May 2010. Available from http://www.fao.org/fishery/facp/PER/en [accessed 15 July 2015].

which it turns west to merge with the Pacific South Equatorial Current[2]. On its way, this current flows up the coast of Chile and Peru to move surface water offshore, and cause upwelling of deeper, nutrient rich waters. These extraordinary conditions allow for plankton growth, which in turn helps sustain a wide variety of marine birds, mammals, and fishes[3].

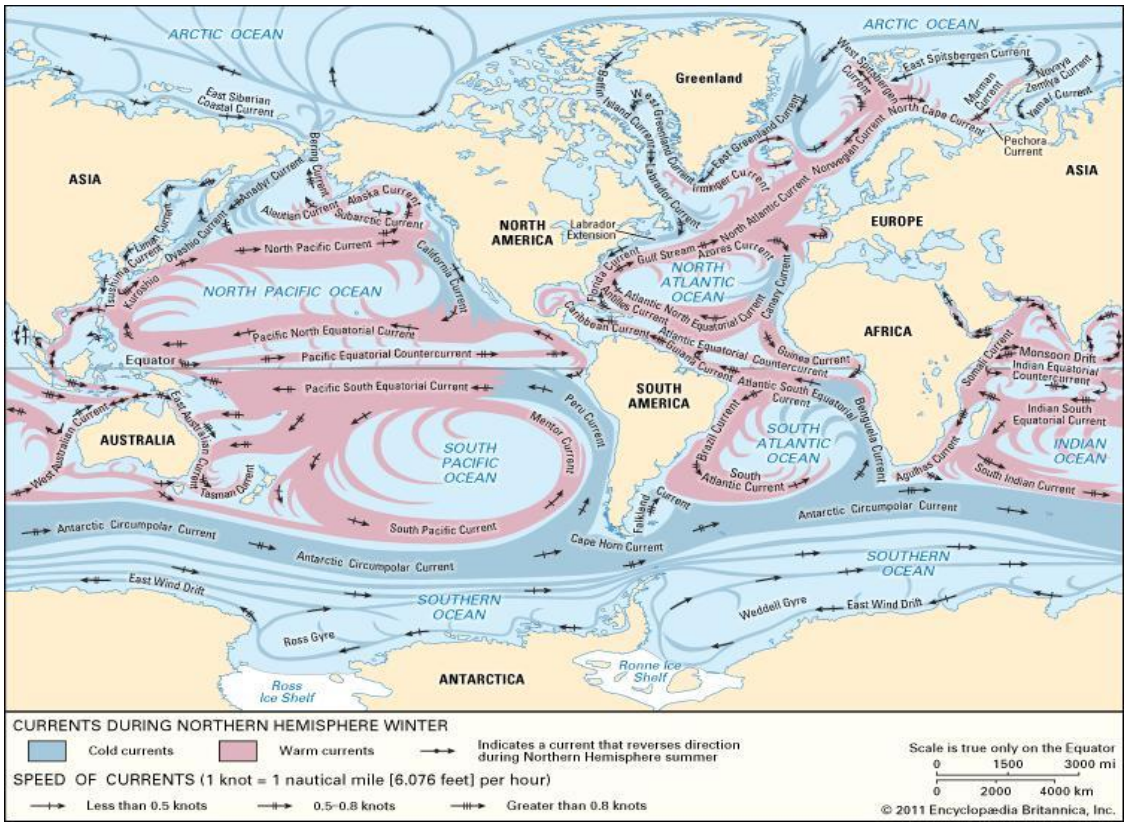

Figure 2. Major ocean currents of the world

Source: Encyclopædia Britannica, "Ocean current", 19 August 2014.

Available from https://www.britannica.com/science/ocean-current

Peru's rich marine biodiversity includes, so far, 1052 marine fish species, 1100 species of mollusk, 512 species of crustacean, 108 species of seabirds, 36 species of mammals and 681 species of marine algae (including micro and macro algae)[4]. In the case of fisheries, the marine ecosystem in front of the coast of Peru has been identified as an extraordinary first producer of exploitable fish biomass, generally yielding more than 20 times the tonnage of fishery landings produced by other comparable regional large marine ecosystems of the world's oceans that

[2]Encyclopædia Britannica, "Peru Current", 10 August 2015. Available from http://www.britannica.com/place/Peru-Current [accessed 1 September 2015]

[3] Ibid.

[4] Global Environment Facility et al. *Proyecto Manejo Integrado Gran Ecosistema Marino de la Corriente de Humboldt. Modulo Ii: Recursos y Pesquerías* (Lima, 2002), p.1.

operate under similar dynamic contexts (e.g. the California, the Canary or the Benguela systems).[5] Some pelagic species such as anchovies, sardines, jack mackerel and chub mackerel are amongst the most important within the Peruvian fisheries sector. Whaling was also important activity in the past, however it is currently prohibited according to international regulations[6].

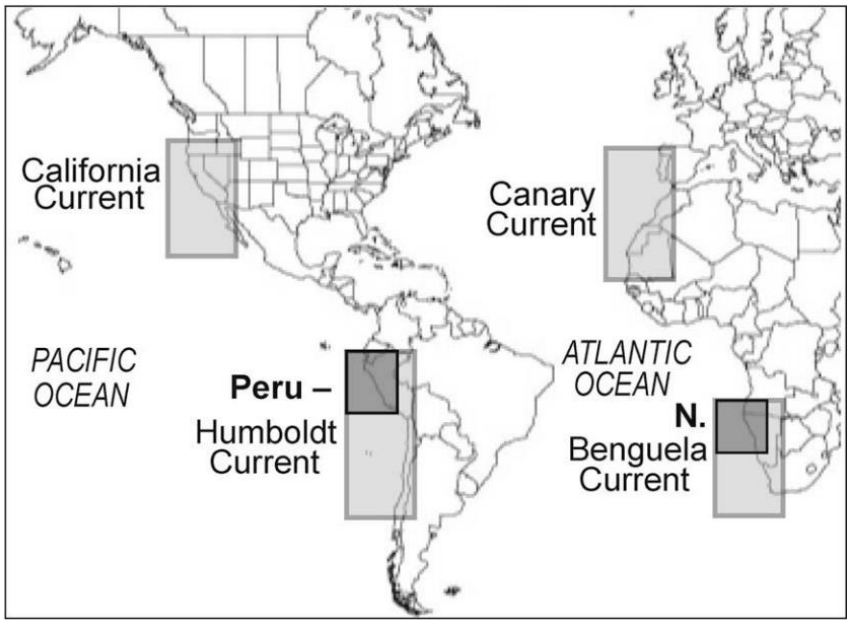

Figure 3. Major regional eastern ocean upwelling systems

Source: Andrew Bakun and Scarla J. Weeks, "The marine ecosystem off Peru: What are the secrets of its fishery productivity and what might its future hold?" (see footnote 5).

Fisheries sector is a key component of the Peruvian economy. This has been true even before the emergence of Peru as an independent state in the nineteenth century. Currently it is the second highest generator of foreign currency after mining, accounting for 2,769 million US dollars in exports in 2013[7] and providing near 150 000 jobs[8].

[5] Andrew Bakun and Scarla J. Weeks, "The marine ecosystem off Peru: What are the secrets of its fishery productivity and what might its future hold?", *Progress in Oceanography*, vol.79, issues 2-4 (October/December 2008), p.290.

[6] At a global level, the conservation of whale stocks is regulated by the International Convention for the Regulation of Whaling. In 1982, its principal organ, the International Whaling Commission, adopted a moratorium on commercial whaling on all whale stock from the 1985/1986 whaling season, which is still in force.

[7] Peru, Ministry of Production. *Anuario Estadístico Pesquero y Acuícola 2013* (Lima, 2015), p.77.

[8] FAO, "Fishery and Aquaculture Country Profiles" (see footnote 1), p.2.

SPECIES	TOTAL (METRIC TONS)
GRAND TOTAL	5 948 567
I. TOTAL FISH	5 321 832
A. PELAGICS	5 152 264
Anchovy	4 859 056
Tuna	8 291
Other species	284 917
B. DEMERSAL	69 752
Hake	54 522
Others	15 230
II. OTHER GROUPS	626 735
Crustaceans	29 570
Mollusks	573 550
Echinoderms	1 427
Algae	22 189

Figure 4. Marine Subsector: data on catches and landings

On the basis of Peru, Ministry of Production. ***Anuario Estadístico Pesquero y Acuícola 2013*** **(see footnote 7), p.15.**

Given the great importance that the marine ecosystem has had for Peru, it was necessary for national authorities to seek legal mechanisms to ensure its proper protection. Accordingly, on 1 August 1947, following similar measures formulated by some states of the Americas[9], Peru adopted a Supreme Decree aimed to extend its maritime jurisdiction to 200 nautical miles to protect its natural resources from the negative effects of exploitation by third States[10]. The paragraph 3 of its operative provisions reads as follows:

[9] E.g., the Declaration of the President of the United States of 28 September 1945, the Declaration of the President of Mexico of 29 October 1945, the Decree of the President of Argentina of 11 October 1946, and the Declaration of the President of Chile of 23 June 1947. Of all these, the Chilean declaration was the first to explicitly claim a maritime jurisdiction area of 200 nautical miles.

[10] Vid. Peru, *Supreme Decree No. 781* (1 August 1947), Preamble. The relevant passages are quoted as follows:"Considering: That the continental submerged shelf forms one entire morphological and geological unit with the continent; That the shelf contains certain natural resources which must be proclaimed as our national heritage; **That it is deemed equally necessary that the State protect, maintain and establish a control of fisheries and other natural resources found in the continental waters which cover the submerged shelf and the adjacent continental seas in order that these resources which are so essential to our national life may continue to be exploited now and in the future in such a way as to cause no detriment to the country's economy or to its food production**; That the value of the fertilizer left by the guano birds on islands off the Peruvian coast also requires for its safeguard the protection, maintenance and establishment of a control of the fisheries which serve to

> […] the State reserves the right to establish the limits of the zones of control and protection of natural resources in continental or insular seas which are controlled by the Peruvian Government and to modify such limits in accordance with supervining circumstances which may originate as a result of further discoveries, studies or national interests which may become apparent in the future and at the same time declares that it will exercise the same control and protection on the seas adjacent to the Peruvian coast over the area covered between the coast and an imaginary parallel line to it at a distance of two hundred (200) nautical miles measured following the line of the geographical parallels.

It can be argued that the starting point of the maritime policy of Peru is the aforementioned legal instrument. From that moment onwards Peru claimed a jurisdictional zone not envisaged as an extension of national territory, but only restricted to the exercise of certain competences focusing on economic criteria and conservation of marine resources. It is the so-called "modal sovereignty"[11] asserted to this area of 200 nautical miles, which involves the exercise of limited state competencies over the adjacent sea, different from and not reducible to the notion of territorial sovereignty. As it has been summarized by an author in reference to the claims of both Chile and Peru (which had the same approach and purpose):

> The figure of 200 nautical miles relied on scientific facts. [T]he guano birds, whose deposit is an important fertilizer, feed on anchovy. Scientific research has shown that anchovy larvae had also been located in up to a 187-mile width. The Andean States thus inferred that a perfect unity and interdependence existed between the sea's living resources and the coastal populations. The claim for a 200 nautical mile zone was considered as a means to correct an inequity inflicted upon them by geography, namely the lack of a continental shelf[12].

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nourish these birds; […] **That in fulfilment of ifs sovereignty and in defence of national economic interests it is the obligation of the State to determine in an irrefutable manner the maritime domain of the Nation, within which should be exerted the protection, conservation and vigilance of the aforesaid resources**" [emphasis added].

[11] Alberto Ulloa, *El régimen jurídico del mar* (Lima, P.L. Villanueva, 1958), p.28.

[12] Yoshifumi Tanaka, *The International Law of the Sea*, 2nd edition (Cambridge, Cambridge University Press, 2015), p.127.

Subsequently, in a step forward towards the development of a maritime policy at a regional level, the governments of Chile, Peru and Ecuador signed the Santiago Declaration during the 1952 Conference held in Santiago de Chile on the Exploitation and Conservation of the Marine Resources of the South Pacific. The three States were conscious of the great whaling and fishing potential of the areas situated off their coasts as well as the necessity of protecting and preserving the marine resources located therein. In the 1952 Declaration of Santiago, considering that governments "are responsible for the conservation and protection of their natural resources and for the regulation of the development of these resources in order to secure the best possible advantages for their respective countries"[13], it was asserted that:

> I […] the former extension of the territorial sea and the contiguous zone are inadequate for the purposes of the conservation, development and exploitation of these resources, to which the coastal countries are entitled.
> II) […] the Governments of Chile, Ecuador and Peru proclaim as a norm of their international maritime policy that they each possess exclusive sovereignty and jurisdiction over the sea along the coasts of their respective countries to a minimum distance of 200 nautical miles from these coasts.

The notion of 200 nautical miles marked a radical shift in the conception of the limits of national jurisdiction and constituted the first precedent of the concept of the Exclusive Economic Zone (EEZ) to be set later in UNCLOS. As it was stated in the Chilean Presidential Declaration and the Peruvian Supreme Decree as well as in the 1952 Declaration of Santiago, the 200 nautical miles' figure was based on scientific facts: on the one hand the presence of the Humboldt Current and, on the other hand, the necessity to safeguard the growth of some species (e.g., the anchovy) that play a vital role in the functioning of the marine ecosystem and ensure the proper functioning of the food chain within the Southeast Pacific[14].

The 1952 Declaration of Santiago established a regional regime in the Southeast Pacific in order to consolidate a maritime zone 200 miles wide and to develop a cooperative policy with a view

[13] United Nations, *Treaty Series*, vol. 1006, No. 14758.
[14] Vid., Tanaka, *The International Law of the Sea* (see footnote 12), p.127; Enrique García Sayán, *Derecho del Mar. Las 200 millas y la posición peruana* (Lima, n.p., 1985), pp.57-60.

to defend these latest areas of national jurisdiction and the natural resources within them[15]. The formation of this regime also considered the establishment of an institutionalized system for the common purpose aforementioned. It is the Permanent Commission for the South Pacific (CPPS, for its acronym in Spanish), an international organization founded in 1952 which continues to operate at present[16].

The articulation of a common maritime policy was not exempted from adversity. Denmark, the United States, the United Kingdom, the Netherlands, Norway and Sweden promptly sent notes stating their disagreement with respect of the scope of the 1952 Declaration of Santiago. In this regard, by the Act of Lima of 12 April 1955, the governments of Peru, Chile and Ecuador agreed to provide a uniform and coordinated response to the protests formulated by those states as well as to reassert the legitimacy of the 1952 Declaration, which was founded on the need for the conservation and prudent use of natural resources[17].

Afterwards, the Montevideo Declaration on the Law of the Sea, adopted on 8 May 1970[18], recognized the right of the coastal States to avail themselves of the natural resources of the sea adjacent to their coast in order to promote the maximum development of their economies and to raise the levels of living of their peoples[19]. In addition, it admitted the freedom of navigation and overflight within the area up to 200 nautical miles[20].

The Declaration of Latin American States on the Law of the Sea (Lima Declaration), adopted on 8 August 1970, followed the biological and economic foundations adopted in Santiago (1952) and Montevideo (1970), although it did not mention the 200-nautical mile limit. However, unlike the two previous declarations, there were a larger number of participating States[21].

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[15] *Maritime Dispute (Peru v. Chile)*, *Memorial of the Government of Peru*, *vol. I*, p.123.

[16] Colombia later joined the CPPS in 1979.

[17] Vid. Juan M. Bákula. *El Dominio Marítimo del Perú* (Lima, Fundación M.J. Bustamante de la Fuente, 1985), p.99; Marisol Agüero, *Consideraciones para la delimitación marítima del Perú* (Lima, Fondo Editorial del Congreso del Perú, 2001), p.133.

[18] Adopted by Argentina, Brazil, Chile, Ecuador, El Salvador, Nicaragua, Panama, Peru and Uruguay.

[19] Montevideo Declaration on the Law of the Sea, Preamble.

[20] Ibid., third operative provision and sixth paragraph.

[21] The Lima Declaration was adopted by Argentina, Barbados, Bolivia, Brazil, Colombia, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela.

Later, during the sessions of the Third United Nations Conference on the Law of the Sea (1973-1982), the idea of a 200 nautical miles maritime zone – placed under the jurisdiction of the coastal State for economic purposes while respecting freedoms such as navigation or overflight – was gradually settling until the construction of the legal regime of the EEZ, whose provisions are currently embodied in Part V of UNCLOS. The practice of the Latin American States, which began in 1947, contributed to the realization of a just and equitable international economic order.

1.1.2. The Peruvian maritime foreign policy, the Maritime Domain of Peru and UNCLOS

A foreign policy consists of courses of actions which a state generally undertakes to realize its national objectives beyond the limits of its own jurisdiction, that is to say, the link between the activities taking place within a state and the world environment outside it[22]. According to the Peruvian constitutional system, the President conducts the foreign policy and represents the state both within and outside it[23]. Secondarily, the Ministry of Foreign Affairs is responsible for formulating, implementing and evaluating foreign policy in accordance with the directives of the President and the general state policy[24]. From this point of view, and it has been stated, the Ministry of Foreign Affairs is the closest adviser to the President on issues of external relations.[25]

In terms of a general state policy, it can be argued that the framework provided by the National Agreement[26] is an important reference for the conduction and implementation of Peruvian foreign policy. In particular, it is worth mentioning two of the 34 state policies contained in this political pact. Firstly, the sixth state policy, linked to the commitment to carry out a foreign policy to serve peace, democracy and development, in order to promote an appropriate country insertion in the world and international markets; and the commitment to consolidate Peru's firm adherence to international law regulations and principles[27]. Secondly, it is necessary to refer to

[22] Peu Ghosh. *International Relations, 3rd edition* (Delhi, PHI, 2015), pp.96-97.
[23] Peru, *Constitución Política* (29 December 1993), articles 118-2,118-11.
[24] Peru, Ministry of Foreign Affairs, *Ley de Organización y Funciones* (12 May 2009), article 5-1.
[25] Óscar Maúrtua, "Constitución y Política Exterior", *Agenda Internacional*, vol,1, No 3 (January - July 1995), p. 19.
[26] The National Agreement (Acuerdo Nacional) is a set of state policies (34) established on the basis of consensus and dialogue. It was signed on 22 July 2002 by the Government as well as representatives of the main political parties and the civil society organizations.
[27] Peru, Secretaría Ejecutiva del Acuerdo Nacional, "6. Foreign policies for peace, democracy, development and integration". Available from http://acuerdonacional.pe/politicas-de-estado-del-acuerdo-nacional/politicas-de-

the nineteenth state policy - related to sustainable development and environmental management - , which asserts the commitment to protect biological diversity, facilitate sustainable use of natural resources and ensure environmental protection[28].

These state action guides are complemented by the general strategic objectives of the Peruvian foreign policy. One of them concerns to the objective of projecting the interests of Peru in the international arena regarding the environment, climate change and sustainable development based on Peru's high biological diversity[29].

Maritime affairs of Peru are not limited to national interests within its area of national jurisdiction, but they also extend to the areas beyond national jurisdiction since there are shared interests with the neighboring coastal States and other members of the international community. This is the case, *inter alia*, of conservation and management of straddling and highly migratory fish stocks; prevention, deterrence and elimination of Illegal, Unreported and Unregulated (IUU) fishing; and management and prevention of transboundary marine pollution.

It is unquestionable that the principal international instrument that provides a comprehensive legal regime for all activities in the oceans and seas is the 1982 United Nations Convention on the Law of the Sea (UNCLOS). The regime established by UNCLOS deals with a wide range of issues on ocean affairs and recognizes that the problems of ocean space are closely interrelated and need to be considered as a whole[30]. Moreover, due to its widespread ratification[31] and its design as a comprehensive agreement, UNCLOS provides the legal framework to address ongoing and future challenges in ocean governance.

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estado%E2%80%8B/politicas-de-estado-ingles/i-democracy-and-rule-of-law/6-foreign-policies-for-peace-democracy-development-and-integration (accessed 29 July 2015).

[28] Ibid., "19. Sustainable development and environmental management". Available from http://acuerdonacional.pe/politicas-de-estado-del-acuerdo-nacional/politicas-de-estado%E2%80%8B/politicas-de-estado-ingles/iii-country competitiveness/19-sustainable-development-and-environmental-management (accessed 29 July 2015).

[29] Peru, Ministry of Foreign Affairs, "Objetivos Estratégicos Generales". Available from http://www.rree.gob.pe/politicaexterior/Paginas/Objetivos_Estrategicos.aspx (accessed 29 July 2015).

[30] Vid. UNCLOS, Preamble, Paragraph 3.

[31] So far UNCLOS has been ratified by 167 parties, which includes 166 states and the European Union. For further reference, vid. United Nations, "Chapter XXI: Law of the Sea", Multilateral Treaties Deposited with the Secretary-General, updated 30 July 2015. Available from https://treaties.un.org/Pages/ParticipationStatus.aspx.

In this regard, one of the most important foreign policy challenges that Peru must face is to achieve the accession to UNCLOS. In 2001 the executive branch submitted Peru's accession to UNCLOS to the National Congress for approval. This request is still under analysis by Congress and it has been the subject of discussions by the Congress Committees of Foreign Affairs and Constitutional Affairs[32]. One of the reasons for such a long delay is that it is still a controversial issue within some political sectors even though from a legal point of view there is no impediment to being part of UNCLOS[33]. The main argument against Peru's accession to UNCLOS is the unfounded assumption of possessing a 200 nautical miles territorial sea. In fact, some contend that the concepts of sovereignty and jurisdiction should be considered as prerogatives that the states execute exclusively in their territory. Therefore, the *Maritime Domain* should be identified as a territorial sea in line with this point of view[34].

According to the 1993 Peruvian Constitution, the *Maritime Domain* includes the sea adjacent to its coasts, as well as its bed and subsoil, up to a distance of 200 nautical miles from the baselines. In its *Maritime Domain*, Peru "exercises sovereignty and jurisdiction, without prejudice to the freedom of international communications, pursuant to the law and the treaties ratified by the state"[35].

[32] The request was renewed by the executive branch in 2001 and 2004.

[33] Peru took an active part in the process of the creation of the modem law of the sea. Peru was one of the pioneers in the policy of claims that led to the general acceptance of the coastal State's maritime rights extending up to a distance of 200 nautical miles from its coast. That principle responds, as we have seen above, to the interest of coastal States to preserve, explore and exploit the resources of the sea adjacent to their coasts for the benefit of their people. It has been said that the recognition in UNCLOS of coastal States' sovereign rights over the exclusive economic zone and over the continental shelf (legally defined and not conditioned by its geomorphology) constituted a victory for Peru and the other member states of the CPPS. Vid. *Summary Records, Plenary, First and Second Committees, as well as Documents of the Third United Nations Conference on the Law of the Sea, Eleventh Session (New York, 8 March to 30 April 1982)*, vol. XVI*, Letter dated 28 April 1982 from the representatives of Chile, Colombia, Ecuador and Peru to the President of the Conference* (A/CONF.62/L.143). For further information about the participation of Peru in the Third United Nations Conference on the Law of the Sea, see Bákula. *El Dominio Marítimo del Perú* (see footnote 17); Alfonso Arias-Schreiber, "La evolución del Derecho del Mar y la participación del Perú en ese proceso", *Política Internacional*, No 31 (January/March 1993); Alfonso Arias-Schreiber, "La Tercera Conferencia sobre el Derecho del Mar y la participación del Perú", in *Derecho del Mar. Análisis de la Convención de 1982*, Sandra Namihas, ed. (Lima, Fondo Editorial de la Pontificia Universidad Católica del Perú, 2001).

[34] For further reference about this visión, vid. Alberto Ruiz-Eldredge, *El Perú y el Mar* (Lima, Técnico Científica, 1988); Ezequiel Ramírez, *El nuevo Derecho del Mar y las 200 millas de mar territorial* (Lima, Amaru Editores, 1988).

[35] Peru, Constitución Política del Perú (29 December 1993), article 54, paragraph 3. The 1979 Peruvian Constitution contained a similar definition with regard to the *Maritime Domain*.

The origin of this *sui generis* concept deserves a brief explanation. In the late 1970's, in view of the new maritime zones that were being discussed in the Third United Nations Conference on the Law of the Sea, the 1978 Peruvian Constituent Assembly adopted a flexible term for referring to the maritime area adjacent to coast of Peru, capable of being implemented by domestic law and the international agreements ratified by the state[36]. Consequently, the notion of *Maritime Domain* included in the 1979 Constitution represented a general concept that cannot he understood as a 200 nautical miles territorial sea[37].

The aforementioned 1993 Constitution adopted the same criteria as its predecessor. In establishing limitations to the exercise of the state's rights, the Constitution clearly reveals the legal status of Peru's *Maritime Domain*, i.e. it cannot be compared with the concept of territorial sea, where third states only have a right of innocent passage as claimed by international law.

In this regard, Peruvian law is also consistent with international law when it refers to 200 nautical miles of "jurisdictional waters" and not to "territorial sea". The current General Law on Fisheries is a case in point[38]. It refers, indeed, to the resources existing in the "jurisdictional waters" of Peru and contains provisions on the fisheries management, extraction, maximum catch allowed and share on surplus, marine scientific research, and fishing by foreign flag vessels, which are fully consistent with the provisions of UNCLOS relating to the EEZ, especially articles 62 and 63.

Furthermore, under the process followed before the International Court of Justice (ICJ) in the case concerning the maritime dispute between Peru and Chile, the agent of Peru, on behalf of the Government, issued a formal declaration in which reiterated Peru's commitment to the modern law of sea as reflected in UNCLOS. In addition, he stated as follows:

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[36] Domingo García Belaunde. *Constitución y Dominio Marítimo* (Lima, Instituto Iberoamericano de Derecho Constitucional (Sección Peruana), 2002), p.46,

[37] As mentioned by Domingo García Belaunde, a Peruvian leading expert on constitutional law, the debates within the 1978 Constituent Assembly brought as a result of the following: a) The enshrinement at the highest level of the 200 nautical miles thesis (which was formulated in 1947); b) The mention of that in this area the state exercises sovereignty and jurisdiction for certain purposes; c) The nomination of this area as *Maritime Domain*, understood as a flexible concept; d) The discarding of the "territorialist" interpretation, as demonstrated by the proposals, speeches, motions and opinions that emerged during the discussions about the legal nature of the Peruvian sea, which were successively discarded; and e) A "permissive" position towards the (then) future UNCLOS. For further details, vid. Ibid., pp.15-16.

[38] In particular vid., Peru, Ley General de Pesca, Decree-Law No 25977 (7 November 1992), articles 2,8 and 9.

> Peru's Constitution of 1993, its internal law, and Peru's practice are in full conformity with the contemporary law of the sea. The term "maritime domain" used in our Constitution is applied in a manner consistent with the maritime zones set out in the 1982 Convention; the Constitution refers expressly to freedom of international communication.
>
> In short, Peru accepts and applies the rules of the customary international law of the sea as reflected in the Convention.
>
> […] Although Peru is not yet a party to the 1982 Convention on the Law of the Sea, both its Constitution and its domestic law and practice are consistent with the principles and rules set out in the Convention […].[39]

First of all, this official statement categorically rules out the existence of a 200 nautical miles territorial sea and simultaneously confirms the legal nature of the Peruvian *Maritime Domain* as a concept compatible with UNCLOS. Secondly, consistent with the constitutional provision it does not exclude the possibility of acceding to UNCLOS in the future. Last but not least, it implicitly admits that all not the provisions contained in UNCLOS are part of the customary international law of the sea; hence it is necessary for Peru adhering to UNCLOS.

The judgment of the ICJ in the maritime dispute between Peru and Chile (rendered on 27 January 2014) stand for Peru the recognition of sovereign rights over a maritime area of about 50 thousand square kilometers as a result of the maritime delimitation set up by the Court[40]. The establishment of this international maritime boundary was a Peru's foreign policy priority since the mid 80's of last century. The completion of this case closes a stage in the Peruvian-Chilean

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[39] *Maritime Dispute (Peru v. Chile)*, Public sitting held on Monday 3 December 2012, at 3 p.m., at the Peace Palace, President Tomka presiding, statement made by the Agent of the Republic of Peru (CR 2012/27), pp.22-23. Also see, *Maritime Dispute (Peru v. Chile),* Public sitting held on Tuesday 11 December 2012, at 3 p.m., at the Peace Palace, President Tomka presiding, statement made by the Agent of the Republic of Peru (CR 2012/34), p.34.

[40] For the full text of the judgment, vid. *Maritime Dispute (Peru v. Chile)*, 27 January 2014, Judgment. Available from http://www.icj-cij.org/docket/files/137/17930.pdf (accessed 31 July 2015). For impartial comments about this sentence, vid., *inter alia*, "A line in the sea", *The Economist*, 1 February 2014. Available from http://www.economist.com/news/americas/21595481-heres-grown-up-way-settle-long-standing-border-dispute-line-sea (accessed 31 July 2015); Uzma S. Burney, "International Court of Justice Defines Maritime Boundary Between Peru and Chile", *American Society of International Law*, vol. 18, issue 3 (10 February 2014). Available from http://www.asil.org/insights/volume/18/issue/3/international-court-justice-defines-maritime-boundary-between-peru-and (accessed 31 July 2015).

bilateral history and launches an enabling environment to strengthen the bonds of integration and cooperation between the two states facing the twenty first century.

On purpose, the twenty first century presents a series of new challenges for states and other actors in the field of international relations. In the case of ocean affairs these challenges are already evident and should be addressed with special focus by coastal states, e.g., global climate change and its effects on oceans, the search for the balance between fisheries and sustainability, the growing importance of marine biodiversity and each of its components, and the indivisible relationship between oceans and national security.

Since Peru has recognized the affinity between its legal system and the maritime zones set out in UNCLOS, the first step towards a coherent and integrated national ocean policy would start distinguishing each of these maritime zones in its internal legislation so that the powers of the state over the areas of national jurisdiction can be clearly identified[41].

[41] A study about the need for an integrated national ocean policy for Peru can be found in Miriam Sara Repetto, "Towards an Ocean Governance Framework and National Ocean Policy for Peru", United Nations - Nippon Foundation of Japan Fellowship Programme, 2005. Available from http://www.un.org/depts/los/nippon/unnff_programme_home/fellows_pages/fellows_papers/repetto_0506_peru.pdf (accessed 31 July 2015).

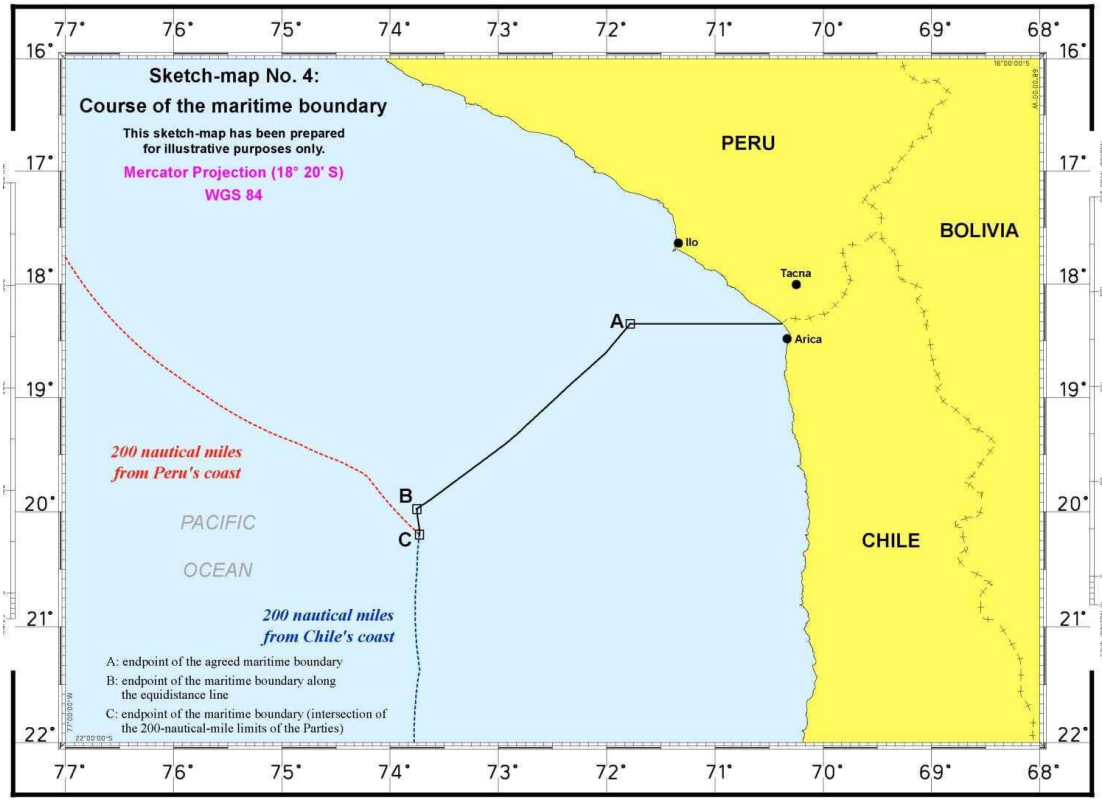

Figure 5. Course of the maritime boundary between Chile and Peru established by the ICJ (2014)

Source: ICJ. *Maritime Dispute (Peru v. Chile)*, 27 January 2014 Judgment (see footnote 34).

As the sea is a geographical area of critical importance for Peruvian people, the accession to UNCLOS should be considered as a foreign policy priority in the twenty first century. It will allow to invoke all its provisions (not only those contained as a part of customary international law) and definitely it will provide legal certainly in the international arena. Furthermore, it will contribute to the consolidation of Peru's external sovereignty within a framework of respect for the contemporary international law. Finally, based on an former role of political leadership in maritime affairs, Peru's accession to UNCLOS could boost a soft power leadership in issues related oceans that are being currently discussed at the multilateral level.

1.2.Peruvian maritime interests in areas beyond national jurisdiction

1.2.1. High seas fisheries and deep sea mining

Peruvian interests on oceans are not limited to its *Maritime Domain*. Rather, these national interests go further and are projected in areas beyond national jurisdiction (ABNJ). Currently there is a series of issues of concern to the international community in such marine spaces, all of which need to be addressed through international cooperation as it became clear that attempts at management on a unilateral basis by individual states have had severe limitations[42].

One area of great interest for Peru is high seas fisheries. Two of the most important legal regimes are related to highly migratory fish stocks and straddling fish stocks. At the global level, governance of high seas fishing is exercised under the provisions contained in Part V (related to the EEZ) and Part VII (related to the High Seas) of UNCLOS. In addition, the legal framework is also provided by the 1995 United Nations Fish Stocks Agreement.

High seas resources are usually managed through regional fisheries management organizations (RFMO's) in charge of organizing the international cooperation around the following tasks: collection of fishery statistics; assessment of the state of resources; analyses of management options and provision of scientific advice for management; management decisions; and monitoring. Since unregulated and open access fishing is both economically counterproductive as well as inconsistent with the maximum sustainable yield level, many RFMO's have been established with specific mandates for the conservation and management of stocks in high seas areas[43].

Regarding the South Pacific Ocean region, in 2006 a process of consultations to enable states to cooperate in addressing the gap that existed in the international conservation and management of non-highly migratory fisheries and protection of biodiversity in the marine environment in high seas areas of the South Pacific was initiated. After a series of international meetings – where about 30 states (including Peru) and several intergovernmental and non-governmental organizations participated –, in 2009 was adopted the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, which objective is "to ensure the long-term conservation and sustainable use of fishery resources and, in so doing, to

[42] Lawrence Juda. "Considerations in Efforts to Effectuate Regional Ocean Governance". Workshop on Improving Regional Ocean Governance in the United States (Washington, D.C., NOOA et al, 2002), p.23.
[43] Antonio J. Rengifo Lozano, *International Regime Theory and the Law of the Sea. A Study of Fisheries on the High Seas* (Bogotá, Editorial Universidad Nacional de Colombia, 2011), p,119.

safeguard the marine ecosystems in which these resources occur"[44]. To achieve that objective the convention also established the South Pacific Regional Fisheries Management Organisation (SPRFMO), a full subject of international law[45].

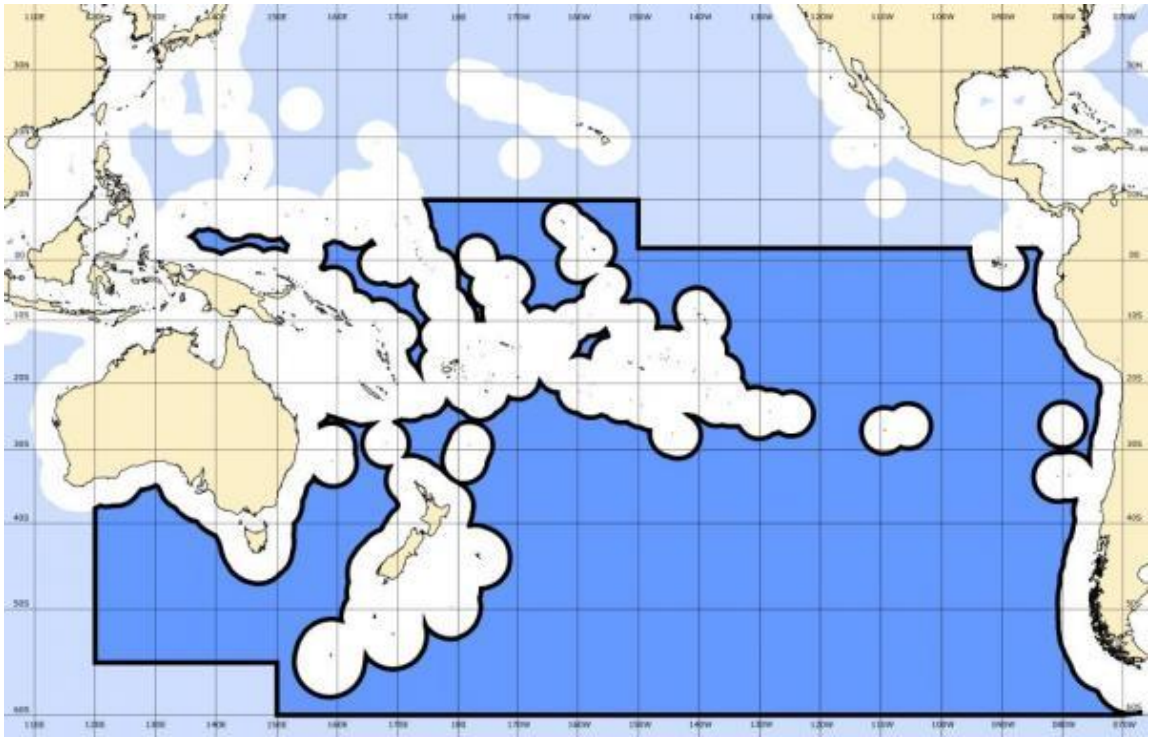

Figure 6. Illustrative map of the SPRFMO area

Source: South Pacific Regional Fisheries Management Organisation

Available from https://www.sprfmo.int/about-the-sprfmo/illustrative-map-of-sprfmo-area/

Due to the importance of the fisheries sector in Peru's economy, it took a particular interest in this process of agreement negotiation. We must remember that the regulation of straddling stocks and highly migratory stocks entail multiple issues for the international community because these species travel through waters within the jurisdiction of different coastal states and in the high seas. The main troublesome is that unrestrained fishing on the high seas undermines any measure adopted by coastal states to conserve these stocks. Looking for effective international mechanisms for regulating fishing of these species on the high seas is a challenge for coastal

[44] South Pacific Regional Fisheries Management Organisation, Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, article 2.

[45] Ibid., article 6

states like Peru and, in that way, the efforts by the RFMO's can contribute to operational solutions[46].

Naturally, the issues around high seas fisheries compromise maritime interests of Peru because certain activities carried out in areas beyond areas of national jurisdiction (but close to the areas within national jurisdiction) may impair conservation and management measures of the living resources in the *Maritime Domain*. It could certainly disturb the future of national fishing industry, in particular the fishing of some straddling stocks like jack mackerel[47] and Humboldt squid[48], so it becomes necessary to protect national interests beyond the limits of national jurisdiction.

The Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean entered into force on 24 August 2012. Peru has signed but not yet ratified the Convention[49] and so far it holds the status of cooperating non-contracting party. As it has been noted by several national authorities, the Convention is appropriate for the interests of Peru and it contributes to strengthening the legal system that regulates fishing activities on the high seas[50].

1.2.2. The future of deep sea mining

Another key component of Peru's economy (actually the first one) is the mining sector. In 2014 mining exports accounted for 58% of the total value of the national exports, reaching 20,410 US million dollars[51]. The mining sector is the engine of growth of Peru since it has been the sector with the greatest contribution to the national economy in terms of GDP, exports and tax input, job creation, among others[52].

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[46] Julie R. Mack. "International Fisheries Management: How the U.N. Conference on Straddling and Highly Migratory Fish Stocks Changes the Law of Fishing on the High Seas", *California Western International Law Journal*, vol. 26, No. 2 (Spring 1996), p.332.

[47] *Trachurus murphyi*, also known as Inca scad or jurel.

[48] *Dosidicus gigas,* also known as jumbo flying squid or pota.

[49] In February 2015 the executive branch submitted Peru's accession to the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean to the National Congress for approval

[50] Although Peru has not yet ratified the Convention, it has adapted its domestic legislation in accordance with the provisions of the Convention.

[51] Peru, Ministry of Energy and Mines, *2014 Annual Mining Report* (Lima, 2015), p.31.

[52] Ibid, pp.30-39.

Peru is considered one of the top ten richest mineral countries in the world[53] and has a leading position in the global production of several minerals. Currently, it is the third largest producer of silver, copper, zinc and tin in the world and is also a major producer of gold, lead, molybdenum, bismuth, among other minerals[54]. In terms of mineral reserves, Peru has 13% of the world's copper reserves, 4% of its gold, 22% of its silver, 7.6% of zinc, 9% of lead and 6% of tin reserves according to the most recent data[55].

It is safe to affirm that in the future deep sea mining will compete with land-based mining. The interest in exploring marine mineral deposits for their potential as commercial mining sites has increased mainly due to current market prices of minerals and the decline of land-based sources. The three major types of marine mineral deposits that are recognized in the world's deep seafloor environment which are the main focus of exploration and mining are polymetallic nodules, cobalt-rich crusts and seafloor massive sulphides[56]. With reference to polymetallic nodules, the world's undersea reserves are estimated to include 10 billion tonnes. In this regard, it has been stated that on average, the most promising of these deposits will break down to about 30% manganese, 1.5% nickel, 1.5% copper, and 0.3% cobalt[57], all of these useful minerals than can also be found on land[58].

[53] Ernst & Young, *Peru's mining & metals investment guide 2014/2015* (Lima, 2014), p.22. Available from http://www.ey.com/Publication/vwLUAssets/EY-Peru-mining-metals-investment-guide-14-15/$FILE/EY-Peru-mining-and-metals-investment-guide-2014-2015.pdf (accessed 5 August 2015).

[54] Peru, Ministry of Energy and Mines, *2014 Annual Mining Report* (see footnote 51), p.31.

[55] Ernst & Young, *Peru's mining & metals investment guide 2014/2015* (see footnote 53), p.22.

[56] Polymetallic nodules are rock concretions formed of concentric layers of iron and manganese hydroxides around a core. Generally, these kind of nodules contain manganese, iron, silicon, aluminum, nickel, cooper, cobalt and other minerals. Cobalt-rich crusts are metallic layers that form on the flanks of submarine volcanoes and, in addition to cobalt, crusts are an important potential source for many other metallic and rare earth elements such as titanium, cerium, nickel, platinum, manganese, phosphorus, thallium, tellurium, zirconium, tungsten, bismuth and molybdenum. Finally, seafloor massive sulphides are a result of hydrothermal activity in the vicinity of mid-ocean spreading centers or tectonically active basins. These kind of minerals are rich in copper, zinc, lead, silver and gold. See International Seabed Authority, "Marine Mineral Resources", Available from https://www.isa.org.jm/sites/default/files/files/documents/ia6_eng6.pdf (accessed 6 August 2015).

[57] Michael Lodge, "Deep sea mining: The new resource frontier?", in Global Agenda Councils. Outlook on the Global Agenda 2015, World Economic Forum, ed. (Cologny, Geneva, World Economic Forum, 2014), p.73.

[58] Aside from the traditional minerals, the marine mineral deposits also contain small traces of rare earth elements. These are a group of 17 metals (yttrium, the 15 lanthanide elements and scandium) that have many similar properties and usually can be found together in geologic deposits. Many of the rare earth elements are used in electronics; that is why their demand has grown during the last 20 years in the international markets.

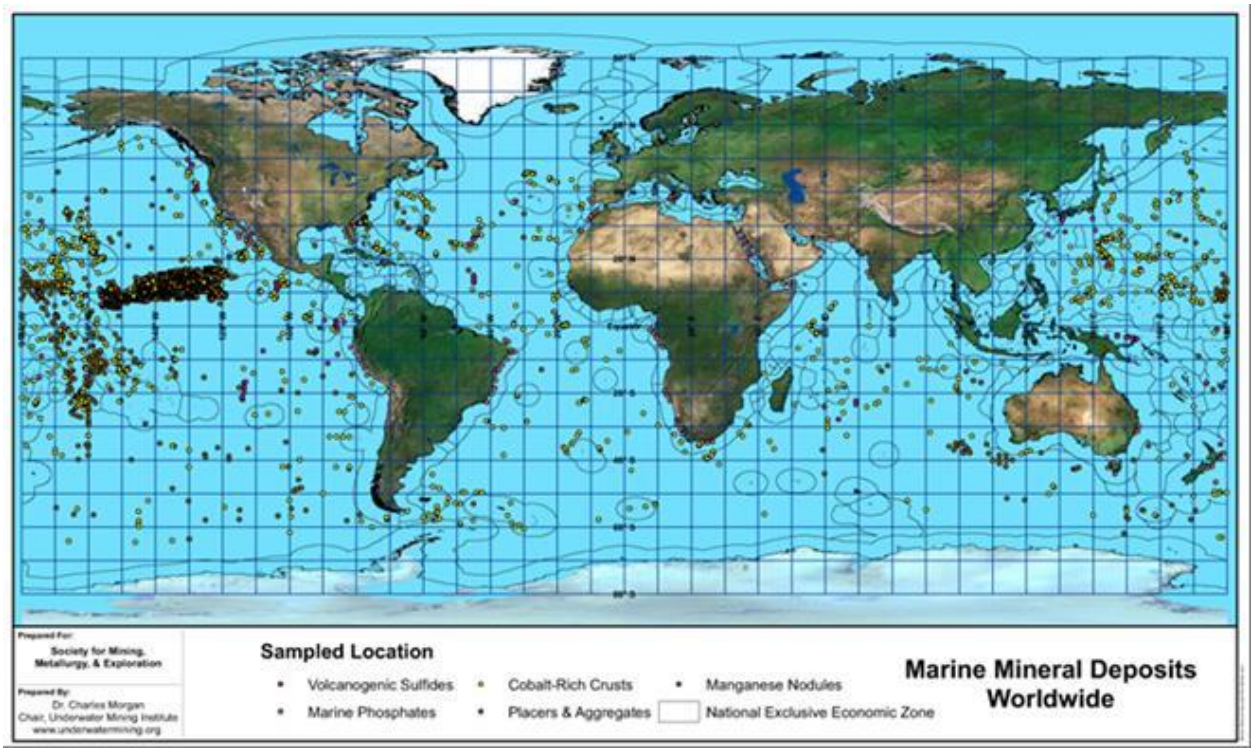

Figure 7. Marine Mineral Deposits Worldwide

Source: Underwater Mining Institute

Available from http://manoa.hawaii.edu/media/campustalk/mining-the-deep-blue-sea/map/

The International Seabed Authority (ISA), a subject of international law established by UNCLOS, is the international organization in charge of organizing and controlling activities in the seabed and ocean floor and subsoil beyond the limits of national jurisdiction (the Area), particularly those related to the administration of resources of the international seabed area beyond the limits of national jurisdiction[59]. The ISA came into existence on 16 November 1994, upon the entry into force of UNCLOS, and it became fully operational in 1996. Its headquarters is located in Kingston, Jamaica.

As part of its functions, to date the ISA has concluded contracts for exploration for marine mineral resources in the Area with 22 contractors[60], which reflects the vitality of the regime for

[59] See UNCLOS, Part XI, in particular articles 156-158.

[60] Fourteen of these contracts are for exploration for polymetallic nodules in the Clarion Clipperton Fracture Zone (13) and Central Indian Ocean Basin (1). Four other contracts are for exploration for polymetallic sulphides in the South West Indian Ridge, Central Indian Ridge and the Mid-Atlantic Ridge and two more contracts are for exploration for cobalt-rich crusts in the Western Pacific Ocean. For updated information, see the ISA website: https://www.isa.org.jm/deep-seabed-minerals-contractors/overview (accessed 7 August 2015).

the Area established by UNCLOS and complemented by the 1994 Agreement, especially the legitimacy of the concept of common heritage of mankind.

Participation in the ISA and its organs is limited to the states parties to UNCLOS and the 1994 Agreement. Since Peru is not a party to them it can not participate in the organization of all the activities concerning the exploration and exploitation of minerals in the Area and, what is more important, it can not protect its national interests as a mining country due to the fact that deep sea mining operations could undermine the economy of land-based minerals exporting countries in the future[61].

1.2.3. Marine biological diversity including marine genetic resources

Oceans cover 72% of the world's surface. In turn, the ABNJ cover about 64 % of the world's oceans, which represents 40% of the earth's surface and a significant amount of the planet's biodiversity[62]. Although the specific role of some marine ecosystems is still not well understood, it is generally accepted that marine ecosystems and biodiversity, even those in ABNJ, have critical functions in the natural cycle and in supporting life on the planet (e.g., driving climate and weather and providing a livelihood for many millions of people)[63].

From the early 1980's, scientific discoveries and the development of more advanced technologies have increased interest in these areas and led to the expansion of human activities across the oceans. However, marine biodiversity is fragile and increasingly vulnerable to unsustainable growing human activities, i.e., marine pollution, destructive fishing practices, and irresponsible scientific research practices.

Aside from the traditional activities carried out in the oceans (e.g., maritime shipping, tourism, and fishing), there are certain kind of emerging practices that have started to attract attention

[61] Eduardo Ferrero, "El Perú y la Convención del Mar", *Revista Peruana de Derecho Internacional*, vol.51, No, 142 (January/April 2011), p.35.
[62] Colleen M. Corrigan and Francine Kershaw, *Working Toward High Seas Marine Protected Areas: An Assessment of Progress Made and Recommendations for Collaboration* (Cambridge, UNEPWCMC, 2008), p.8.
[63] John G. Field, Gotthilf Hempel and Colin P. Summerhayes, "Introduction", in *Oceans 2020: Science, Trends and the Challenge of Sustainability*, John G. Field, Gotthilf Hempel and Colin P. Summerhayes, eds. (Washington, D.C., Island Press, 2002), p.1

from international actors. The aforementioned deep sea mining in ABNJ is one of them and ever more it becomes an undeniable reality. Another growing activity is bioprospecting[64], which is considered to be the source of major debates among the international community regarding the legal status of marine genetic resources in ABNJ[65].

Nowadays there are two legal regimes applied to ABNJ. On the one hand, the legal regime of the freedom of the high seas regulated by Part VII of UNCLOS. Nevertheless, this regime is not absolute: it is subject to conditions laid down by the international law[66] and it must be exercised with due regard for the interests of other States and with due regard for the rights under UNCLOS with respect to activities in the Area[67]. On the other hand, the legal regime established by part XI of UNCLOS (and the 1994 Agreement), which states that the Area and its mineral resources are the common heritage of mankind[68].

The great challenge for the international community is the need to protect marine biodiversity in ABNJ. This issue is currently in the center of numerous debates in several international fora given that it seems that the current legal framework is not completely appropriate and efficient to address the threats and diverse impacts linked to human activities in these areas. In this regard, the proposal for a multilateral agreement under UNCLOS on the conservation and sustainable use of marine biodiversity in ABNJ is an option which has gained support from a certain group of states in recent years. However, the processes of negotiations and implementation of such an instrument remain a challenge that is likely to take several years to overcome[69].

[64] See chapter 4.1.1.
[65] Elisabeth Druel and others, *Governance of marine biodiversity in areas beyond national jurisdiction at the regional level: filling the gaps and strengthening the framework for action. Case studies from the North-East Atlantic, Southern Ocean, Western Indian Ocean, South West Pacific and the Sargasso Sea* (Paris, IDDRI and AAMP, 2012), p.11.
[66] UNCLOS, article 87.1
[67] UNCLOS, article 87.2.
[68] UNCLOS, article 136.
[69] Elisabeth Druel and others, *Governance of marine biodiversity in areas beyond national* jurisdiction (see footnote 65), p.13.

Figure 8. Map of megadiverse countries

Source: Biodiversity A-Z (UNEP-WCMC)

Available from http://www.biodiversitya-z.org/content/megadiverse-countries

Why such a complex issue should be relevant for Peru? Because of a series of reasons. First of all, Peru is considered one of the world's ten megadiverse countries[70]. Within its borders there are approximately 25.000 species of flora (10% of the world total), 2.000 species of fish (10% of the world total); 1.736 species of birds; 32 species of amphibians; 460 species of mammals; and 365 species of reptiles[71]. And the marine ecosystems located off the coast of Peru is one of the richest on the earth[72]. If we understand that the oceans are "a complex set of interconnected parts, physical and biological, that operate as a whole"[73], we must agree that some human activities could have a severe impact on this system, whether it happen in areas within or beyond

[70] The term "megadiversity" groups some countries that hold vast amounts of the world's biological diversity (around 70% altogether). These countries are Australia, Brazil, China, Colombia, Democratic Republic of the Congo, Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico, Papua New Guinea, Peru, Philippines, South Africa, United States, and Venezuela. To be considered megadiverse, a country must have at least 5000 of the world's plants as endemics; and must have marine ecosystems within its borders. See UNEP-WCMC, "Megadiverse Countries", 20 November 2014. Available from http://www.biodiversitya-z.org/content/megadiverse-countries (accessed 10 August 2015).

[71] CBD, "Peru – Country Profile". Available from https://www.cbd.int/countries/profile/default.shtml?country=pe (accessed 10 August 2015).

[72] See above, chapter 1.1.1.

[73] Biliana Cicin-Sain and Robert W. Knech, *The Future of U.S. Ocean Policy: Choices for the New Century* (Washington, D.C., Island Press, 2000), p.327.

national jurisdiction. Therefore, the ocean management should be a global concern in which states hold the major responsibility, especially those ones who have the privilege to look out to the sea.

In connection therewith, Peru is called to play an important role in the development of rules for ocean governance. Peru should not pass over a contemporary issue that concerns it and that has an influence on its maritime interests in ABNJ. In terms of foreign policy, it has been stated that:

> When a country starts to play significant roles at the multilateral level, it is acquiring a gradual multiplication of its own bargaining power. It can increase its capacity to obtain certain national goals beyond its national borders and also strengthens its ability to resist the interests of countries that want to somehow limit or decrease its natural or political potential[74].

This cannot be truer in the current search of an international agreement on marine biodiversity in ABNJ. That is why, regarding this significant issue, Peru needs to articulate a coherent position among its national institutions in order to achieve an optimal participation in the international fora that discuss the creation of a special regime for the conservation and sustainable use of biodiversity in ABNJ.

In the following chapters we will focus on several topics related marine biodiversity (including marine genetic resources) in ABNJ and will explore some elements of a possible implementing agreement on marine biodiversity in ABNJ according to the interests and needs of Peru.

[74] Carlos García Bedoya, *Política Exterior Peruana: Teoría y Práctica*, 2nd edition (Lima, Academia Diplomática del Perú, 1992), p.50 [free translation].

CHAPTER 2

MARINE BIOLOGICAL DIVERSITY BEYOND AREAS OF NATIONAL JURISDICTION AS A GLOBAL CONCERN

2.1. Relevant international instruments

2.1.1. Binding instruments

a) United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS, as mentioned in the previous chapter, sets out the international legal framework for all activities in the oceans. Because of its exhaustiveness it has been called "a constitution for the oceans" by the president of the Third United Nations Conference on the Law of the Sea, Ambassador Tommy Koh, at the final session of that conference in December 1982[75]. It that way UNCLOS must be understood as the principal international instrument that provides the legal framework for the public order of the oceans and seas as well as it determines a systematic role for the integration of all treaties relating to the ocean affairs and the law of the sea[76]. So it is the starting point for any analysis of rules applicable to the use of marine resources.

Although UNCLOS is considered to be a cornerstone of the international law of the sea, it is, as any legal text, a product of its time (the period when it was negotiated and adopted is from 1973 to 1982) and therefore it is not the end of legal regulation in the field of the law of the sea. In this regard, it has been argued that "the assumption that everything that occurs in the seas must necessarily fall under the scope of the UNCLOS […] is far from being satisfactory"[77].Furthermore, it could be added that:

[75] Tommy T.B. Koh, "'A Constitution for the Oceans': Remarks by Tommy T.B. Koh of Singapore. President of the Third United Nations Conference on the Law of the Sea" in *The Law of the Sea; Offical Text of the United Nations Convention on the Law of the Sea*, United Nations (New York, United Nations 1983), pp. xxxiii-xxxvii.

[76] Rainer Lagoni, "Commentary" in *Stability and Change in the Law of the Sea: The Roles of the LOS Convention*, Alex G. Oude Elferink, ed. (Leiden, Martinus Nijhoff Publishers,2005), pp.49-51.

[77] Tullio Scovazzi, "The assumption that the United Nations Convention on the Law of the Sea is the legal framework for all activities taking place in the sea" in *Ocean Sustainability in the 21st Century*, Salvatore Aricò, ed. (Cambridge, Cambridge University Press, 2015), p.232.

> UNCLOS cannot be supposed to regulate those activities that its drafters did not intend to regulate for the simple reason that they were not foreseeable in the period when this treaty was being negotiated. International law of the sea is subject to a process of natural evolution and progressive development which is linked to new needs and involves also the UNCLOS[78].

That is why UNCLOS does not specifically refer to terms like 'biodiversity', 'marine genetic resources' or 'sustainability'. However, it does not mean that UNCLOS lacks provisions on the protection of the marine biological diversity in ABNJ, at least in the broad sense. In its Preamble, indeed, it is stated that the states parties to UNCLOS "will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment, protection and preservation of the marine environment"[79].

In addition, some provisions contained in part XII of UNCLOS relates indirectly to the marine biological diversity in ABNJ. Firstly, article 195, which imposes a general obligation on States to protect and preserve the marine environment. Secondly, a general obligation "to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life"[80]. If interpreted that 'marine environment' includes the ocean as a whole, it follows that states are under an obligation to protect and preserve rare or fragile ecosystem in marine spaces both under and beyond national jurisdiction[81].

Anyhow, it is clear that UNCLOS does not contain explicit provisions relating to conservation of marine biological diversity in ABNJ. Under it there is no current global regime setting out a management mechanism and rules on this matter. Consequently, biological diversity located in ABNJ remains largely unprotected from multiple threats, e.g., pollution, overfishing and destructive fishing practices, as well as emerging activities linked to bioprospecting and deep sea mining, all of them compounded by the effects of climate change and ocean acidification.

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[78] Tullio Scovazzi, "The Conservation and Sustainable use of Marine Biodiversity, including Genetic Resources, In Areas Beyond National Jurisdiction: A Legal Perspective (Abstract)". Presentation at the 12th Meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea, New York, 20-24 June 2011, p.2.
[79] UNCLOS, Preamble, Paragraph 4.
[80] UNCLOS, Article 194.5
[81] Tanaka, *The International Law of the Sea* (see footnote 12), p.338.

In view of the need of filling gaps regarding this contemporary issue, the possibility of a third implementing agreement to UNCLOS is not unreasonable. The two first ones, i.e., the 1994 Agreement relating to the Implementation of Part XI and the 1995 United Nations Fish Stock Agreement, were formulated with the aim of addressing issues that were not sufficiently covered under UNCLOS.

Some elements of a future implementing agreement regarding marine biological diversity in ABNJ will be discussed in the last chapter of this study.

b) Convention on Biological Diversity (CBD)

Along with UNCLOS, the CBD is a relevant instrument for this study since it provides a global legal framework for the conservation and sustainable use of biological diversity. This treaty was adopted at the Earth Summit in Rio de Janeiro on 5 June 1992 and entered into force on 29 December 1993. It currently enjoys near universal participation with 195 parties[82].

The coexistence of these two conventions shows how successive treaties on rather different topics can nevertheless contribute to the development of an integrated legal regime, i.e., the CBD and UNCLOS are mutually supportive in encouraging an ecosystem approach requiring the protection of marine habitats and marine resources[83]. The aforementioned Part XII of UNCLOS goes in that way. Moreover, it is clear that each agreement is appropriate for the purpose of interpreting the other: the article 22 of the CBD and the articles 311.2 of UNCLOS address this close relationship[84].

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[82] So far the CBD has been ratified by 196 parties, which includes 195 states and the European Union. Peru signed the CBD on 12 June 1992 and ratified it on 7 June 1993. For further reference, vid. United Nations, "Chapter XXVII: Environment", Multilateral Treaties Deposited with the Secretary-General, updated 20 August 2015. Available from https://treaties.un.org/Pages/ParticipationStatus.aspx

[83] Patricia Birnie, Alan Boyle and Catherine Redgwell. *International Law & the Environment*, 3rd ed. (New York, Oxford University Press, 2009), pp.744-745.

[84] The article 22 of the CBD states that "the provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity" and "Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea". The article 311.2 of UNCLOS states that "this Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this

The CBD seeks three objectives: (1) the conservation of biological diversity, (2) the sustainable use of its components, and (3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. It is worth highlighting that the provisions of the CBD apply both to terrestrial and marine biodiversity[85].

Regarding the jurisdictional scope of the CBD, its article 4 states that:

> Subject to the rights of other States, and except as otherwise expressly provided in this Convention, the provisions of this Convention apply, in relation to each Contracting Party:
>
> a) In the case of components of biological diversity[86], 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.

There is no doubt that the CBD applies primarily to biodiversity within national jurisdiction both to components of biological diversity and to processes and activities. Regarding the ABNJ, the provisions of the CBD only apply to processes and activities carried out under the jurisdiction or control of the states parties. They cannot be applied to components of marine biological diversity in ABNJ because, according to the law of the sea, the states parties individually do not have jurisdiction or sovereign rights over these components[87]. This is a current legal vacuum that needs to be filled.

Convention". In this regard, the article 237.1 of UNCLOS is also relevant when it states that "the provisions of this Part [Part XII] are without prejudice to the specific obligations assumed by States under special conventions and agreements concluded previously which relate to the protection and preservation of the marine environment and to agreements which may be concluded in furtherance of the general principles set forth in this Convention".

[85] See CBD, articles 2 and 22.

[86] The term 'biological diversity' is defined in the article 2 of the CBD 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"**[emphasis added].

[87] Louise Angélique de La Fayette, "A New Regime for the Conservation and Sustainable Use of Marine Biodiversity and Genetic Resources Beyond the Limits of National Jurisdiction", *The International Journal of Marine and Coastal Law,* vol. 24, No. 2 (2009), p.243; *Marine and Coastal Biodiversity: Review, Further Elaboration and Refinement of the Programme of Work. Study of the relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea with regard to the conservation and sustainable use of genetic resources*

However, this does not mean that the CBD is irrelevant to ABNJ because States must apply the general principles of the CBD to processes and activities carried out under their jurisdiction or control[88]. In practice this would include taking measures to control the actions of both their nationals and ships flying their flag[89]. Furthermore, according to the article 5 of the CBD, states parties are required to cooperate directly, or through competent international organizations, for the conservation and sustainable use of marine biodiversity in ABNJ, although, as it has been noted, the terms 'as far as possible' and 'as appropriate' reduce the effectiveness of that article and leave much discretion to the states parties[90].

Regarding the issue of access and benefit-sharing (ABS) of genetic resources, the CBD has also undertaken a significant contribution. But, again, the CBD primarily addresses genetic resources under national jurisdiction[91]. The 2010 Nagoya Protocol, adopted on 29 October 2010 at the 10th Conference of the Parties (COP10) to the CBD[92] and which aims at implementing the provision of the CBD on the fair and equitable sharing of benefits arising from the utilization of genetic resources, applies to genetic resources within national jurisdiction too.

The 2010 Nagoya Protocol boosts significantly the third objective of the CBD and it brings two important developments, i.e., a series of specific obligations to support compliance with domestic legislation or regulatory requirements of the party providing genetic resources, and contractual obligations reflected in mutually agreed terms[93]. Although the scope of the Nagoya Protocol is certainly limited to genetic resources within national jurisdiction, it must be seen as a "possible source of inspiration and solutions"[94] in the search for a regime on the ABS to marine genetic resources from ABNJ. In fact, its article 10 leaves open the possibility for the future

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on the deep seabed (decision II/10 of the Conference of the Parties to the Convention on Biological Diversity), Montreal, 10-14 March 2003 (UNEP/CBD/SBSTTA/8/INF/3/Rev.1), §70.

[88] See, for instance, CBD, article 3.

[89] La Fayette, "A New Regime for the Conservation and Sustainable" (see footnote 87), p.243.

[90] Yoshifumi Tanaka, *The International Law of the Sea* (Cambridge, Cambridge University Press, 2012), p.323.

[91] See CBD, article 15.

[92] The 2010 Nagoya Protocol entered into force on 12 October 2014. So far it has been ratified by 63 parties. Peru signed the Nagoya Protocol on 4 May 2011 and ratified it on 8 July 2014. For further reference, vid. United Nations, "Chapter XXVII: Environment", Multilateral Treaties Deposited with the Secretary-General, updated 21 August 2015. Available from https://treaties.un.org/Pages/ParticipationStatus.aspx

[93] See Nagoya Protocol, Introduction.

[94] Salvatore Aricò, "Issues regarding oceans and opportunities: an introduction to the book" in *Ocean Sustainability in the 21st Century*, Salvatore Aricò, ed. (Cambridge, Cambridge University Press, 2015), p.14.

negotiation of a multilateral benefit-sharing mechanism, which could provide the basis for a future benefit-sharing arrangement regarding marine genetic resources in ABNJ, if the states parties so wish[95].

The framework provided by the CBD might be relevant for future development regarding marine biodiversity in ABNJ, as evidenced by the work deployed by the Secretariat of the CBD, the COP and other Convention bodies.

c) FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

The ITPGRFA was adopted at the 31st session of the FAO Conference, on 3 November 2001 and entered into force on 29 June 2004[96]. The ITPGRFA, in harmony with the CBD, aims to the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use for sustainable agriculture and food security[97].

While the scope of the ITPGRFA is focused on genetic resources within the limits of national jurisdiction, it provides a good example of an ABS regime as has been suggested by the *United Nations Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction* (the 'BBNJ Working Group')[98]. In particular, reference addresses to the Multilateral System of ABS set out in Part IV of the ITPGRFA.

This Multilateral System was established both to facilitate access to plant genetic resources for food and agriculture, and to share, in a fair and equitable way, the benefits arising from the

[95] During the negotiations of the Nagoya Protocol at the COP 10, the possibility of applying it to the genetic resources in ABNJ was present until the last moment. Finally, probably due to the particularities of these resources, they were excluded from the scope of the final text of the Protocol. For further details, see, among others, Thomas Greiber, *Access and Benefit Sharing in Relation to Marine Genetic Resources from Areas Beyond National Jurisdiction: A Possible Way Forward* (Bonn, Federal Agency for Nature Conservation of Germany, 2011), pp.31-34.

[96] The ITPGRFA has been ratified by 134 states and the European Union. Peru signed this treaty on 8 October 2002 and ratified it on 5 June 2003. Further reference available from http://www.planttreaty.org/list_of_countries

[97] ITPGRFA, article 1.

[98] A/66/119, §48.

utilization of these resources, on a complementary and mutually reinforcing basis[99]. The resources covered by the Multilateral System are listed in Annex I of the ITPGRFA. These are 64 crops and forages which together contribute some 80% of the world's total energy food supply[100].

The ITPGRFA is complemented by the Standard Material Transfer Agreement (SMTA), i.e., a standard contract for parties wishing to provide and receive material under the Multilateral System. Under the Multilateral System of the ITPGRFA, access to genetic resources is done on the basis of the SMTA and hence does not require ad hoc negotiations between providers and recipients of plant genetic resources (unlike the regime of the CBD that promotes the development of a system of bilateral contractual rules for the exchange of genetic resources), which reduces transaction costs[101].

The Multilateral System of the ITPGRFA only includes crops which are under the management and control of the parties, and so, like the CBD regime in this regard, it excludes any kind of genetic resources from ABNJ. Therefore, it is clear that the model provided by the ITPGRFA cannot be applied literally to regulate the ABS associated with marine genetic resources in ABNJ. There are a number of reason to support this statement.

Firstly, it could be virtually impossible to set up a list of marine species so similar to that of Annex 1 of the ITPGRFA. In the context of marine biodiversity, due to the constant developments in marine biotechnology and the unceasing discoveries of new species, a potential list of marine species to which a marine genetic resources regime would apply might be endless. While the crops and forages within the list of Annex 1 of the ITPGRFA were selected based on criteria of food security and interdependence, a comparable list for marine species in ABNJ would be impossible as no adequate selection criteria exists[102].

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[99] ITPGRFA, article 10.2.

[100] Gerald Moore and Witold Tymowski. *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture* (Gland, IUCN, 2005), p.5.

[101] Marjo Vierros and others, "Emerging and unresolved issues: the example of marine genetic resources of areas beyond national jurisdiction" in *Ocean Sustainability in the 21st Century*, Salvatore Aricò, ed. (Cambridge, Cambridge University Press, 2015), p.215.

[102] Thomas Greiber, "Common pools for marine genetic resources: a possible instrument for a future multilateral agreement addressing marine biodiversity in areas beyond national jurisdiction" in *Common pools of genetic*

Secondly, having in mind that marine ecosystem functions and processes develop regardless the legal division of oceans, many marine genetic resources could be found both in areas beyond and within national jurisdiction. This could be problematic when it comes to developing a similar list to that of Annex 1 of ITPGRFA.

Last but not least, unlike the terrestrial genetic resources contained in the Annex 1 of the ITPGRFA, the legal framework of intellectual property rights about the use of marine biodiversity in ABNJ is not yet entirely clear since this is a regime under construction. In this regard, there are many questions still unresolved, e.g., the scopes and limits of bioprospecting and marine scientific research in ABNJ, the relationship between UNCLOS and international property right regimes, among others[103].

The ITPGRFA can provide interesting lessons for the purpose of establishing a regime for the ABS of marine genetics resources in ABNJ, e.g., the facilitated access to plant genetic resources for food and agriculture and the benefit-sharing within the Multilateral System[104], as well as the role of the SMTA in the ABS of genetic resources. However, if considered to use the Multilateral System of the ITPGRFA as a model there should be several modifications in line with the particular features of the marine biodiversity in ABNJ.

d) A subregional perspective: The Andean Community[105] regime on access to genetic resources

The Andean Community common regime on access to genetic resources was established by the Decision No.391, issued by the Commission of the Cartagena Agreement, on 2 July 1996. In this Decision the member states of the Andean Community recognize that genetic resources have an

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resources: Equity and innovation in international biodiversity law, Evanson Chege Kamau and Gerd Winter, eds. (London, Routledge, 2013), p.410.

[103] See Charlotte Salpin and Valentina Germani, "Patenting of Research Results Related to Genetic Resources from Areas beyond National Jurisdiction: The Crossroads of the Law of the Sea and Intellectual Property Law", *Review of European Community and International Environmental Law*, vol.16, No.1 (2007), pp.12-23; Vierros and others, "Emerging and unresolved issues" (see footnote 101), pp.212-218.

[104] See ITPGRFA, articles 12-13.

[105] The Andean Community is an integration organization currently comprising Bolivia, Ecuador, Colombia and Peru. It was created in 1969 by the Cartagena Agreement.

enormous economic value as a primary source of products and processes for industry[106]. Therefore, they decide to regulate access to the genetic resources in order to create conditions for a fair and equitable participation in the benefits arising from their access and promote conservation and sustainable use of biological diversity and biological resources that contain genetic resources[107].

The Decision No.391 focuses on the protection of biological diversity within the jurisdiction of the member states of the Andean Community. Nevertheless, in the framework of the Andean Committee on Genetic Resources, a body created by the Decision No.391 and reactivated in 2012, it has been agreed to review the current common regime in view of the new scientific and technological development, the ITPGRFA, the 2010 Nagoya Protocol, and the international fora where the issues around biodiversity are discussed[108]. During this review process the existing discussions on the development of an international agreement for the conservation and sustainable use of marine biodiversity in ABNJ should not be ignored. In this regard, it is likely that the Andean Community will adopt a position on the matter.

2.1.2. Non-binding instruments

a) Agenda 21

Non-binding or soft-law instruments also provide policy guidance of relevance to marine biodiversity in ABNJ. Agenda 21 is one of the most important documents of its kind due to the range of issues addressed, not only related to the environment and its resources. It was adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, from 3 to 14 June 1992.

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[106] Andean Community, *Decisión 391 - Régimen Común sobre Acceso a los Recursos Genéticos*, Preamble, 8th paragraph.
[107] Ibid., articles 2(a) and 2(c).
[108] Andean Comunnity, "Países de la CAN reactivan Comité Andino sobre Recursos Genéticos y retoman acciones subregionales", 20 August 2012. Available from http://www.comunidadandina.org/Prensa.aspx?id=3222&accion=detalle&cat=AF&title=paises-de-la-can-reactivan-comite-andino-sobre-recursos-geneticos-y-retoman-acciones-subregionales (accessed 23 August 2015).

The Preamble to Agenda 21 points out that "the continuing deterioration of the ecosystems" is one of the major issues confronting humanity, and "better protected and managed ecosystems" cannot be achieved without the integration of environment and development as well as international cooperation[109].

Chapter 17 of Agenda 21 is devoted to the protection of the oceans and the protection, rational use and development of their living resources. In this regard, Chapter 17 calls for improved management and sustainable use of oceans and seas and demands "new approaches to marine and coastal area management and development, at the national, subregional, regional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit"[110].

There are seven program areas included in Chapter 17: integrated management and sustainable development of coastal areas, including EEZs; marine environmental protection; sustainable use and conservation of marine living resources of the high seas; sustainable use and conservation of marine living resources under national jurisdiction; addressing critical uncertainties for the management of the marine environment and climate change; strengthening international, including regional, cooperation and coordination; and sustainable development of small islands.

These programs, as a whole, seek to implement several parts of UNCLOS but also introduce new elements not considered by it, e.g., the emphasis on integrated and precautionary approaches to protection of the marine environment. As it has been highlighted, in Chapter 17 of Agenda 21 the focus has shifted from the principal objective of control of sources of marine pollution and now is more broadly focused on the prevention of environmental degradation and the protection of ecosystems[111].

With regard to marine living resources in ABNJ, emphasis is placed on multi-species management and other approaches that take into account the relationships among species,

[109] Agenda 21, Chapter 1.
[110] Agenda 21, Chapter 17, paragraph 1.
[111] Julian Robert, *Marine Environment Protection and Biodiversity Conservation: The Application and Future Development of the IMO's Particularly Sensitive Sea Area Concept* (Berlin, Springer, 2007), p.27.

including the need to protect and restore endangered marine species and preserve habitats and other ecologically sensitive areas[112].

b) Johannesburg Declaration on Sustainable Development

The Johannesburg Declaration on Sustainable Development was adopted on 4 September 2002 at the World Summit on Sustainable Development and it confirms the commitments of states under Agenda 21. The Johannesburg Plan of Implementation was also adopted along with the Declaration.

The Johannesburg Plan of Implementation calls for the sustainable development of the oceans though effective coordination and cooperation at the global and regional levels. In particular, states are invited to ratify or accede to and implement UNCLOS and to promote the implementation of Chapter 17 of Agenda 21.

In addition, the Johannesburg Plan of Implementation promotes the conservation and management of the oceans through actions at all levels giving due regard to the relevant international instruments to, inter alia, maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction; and develop national, regional and international programs for halting the loss of marine biodiversity, including in coral reefs and wetlands[113].

c) The "Rio+20" United Nations Conference on Sustainable Development

The United Nations Conference on Sustainable Development (also know as "Rio+20") took place in Rio de Janeiro from 20 to 22 June 2012, twenty years after the 1992 Earth Summit held in the same city.

The outcome document adopted by the "Rio+20" Conference is entitled *The future we want*. It reflects the commitment of states to sustainable development and the promotion of economically, socially and environmentally sustainable future for the planet and for present and future

[112] Agenda 21, Chapter 17, paragraphs 17.45-17.46.
[113] Johannesburg Plan of Implementation, § 32.

generations[114]. It also reaffirms the commitments established in Agenda 21 and the Johannesburg Declaration on Sustainable Development.

In particular, regarding oceans and seas, the states recognize the importance of the conservation and sustainable use of marine biodiversity in ABNJ and note the ongoing work of 'The BBN Working Group'. Furthermore, they reiterate the need to enhance the resilience of marine ecosystems and of the communities whose livelihoods depend on them, and to support marine scientific research, monitoring and observation of ocean acidification and particularly vulnerable ecosystems, including through enhanced international cooperation in this regard[115].

2.2. The work of the United Nations General Assembly

2.2.1. The Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP)

In 1999, the United Nations General Assembly decided, consistent with the legal framework provided by UNCLOS and the goals of Chapter 17 of Agenda 21, to establish the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP) in order to facilitate the annual review by the General Assembly of developments in ocean affairs by considering the Secretary-General's report on oceans and the law of the sea and by suggesting particular issues to be considered by it, with an emphasis on identifying areas where coordination and cooperation at the intergovernmental and inter-agency levels should be enhanced[116]. To date, the ICP has held 16 meetings.

It is at the third meeting of the ICP, in 2002, where a more accurate approach to marine biodiversity in ABNJ was tackled. In this meeting was underlined the importance of addressing the protection of vulnerable ecosystems and biodiversity beyond national jurisdiction as well as the idea of establishing a new regime to identify and protect ecosystems beyond national jurisdiction on the basis of the framework provided by UNCLOS[117].

[114] *The future we want*, §1.
[115] Ibid., §166.
[116] A/RES/54/33
[117] A/58/95, §99.

The fifth meeting of the ICP, in 2004, discussed threats to biodiversity in ABNJ and the need to identify vulnerable areas and assess the action required. In light of the growing international attention on the need to address issues related marine biodiversity beyond national jurisdiction, the 59th session of the General Assembly created the 'BBNJ Working Group' to host more robust intergovernmental discussions on ABNJ issues and address key questions and areas of uncertainty in support of the UN General Assembly[118].

The eight meeting of the ICP, held in 2007 organized its discussions around the topic of marine genetic resources. This meeting reflected that many issues related marine genetic resources in ABNJ are highly contentious, e.g., the legal status of these resources (freedom of high seas vs. common heritage of mankind) and several aspects of intellectual property regimes that need to be better considered. Hence, one of the Co-Chairs' recommendations to the General Assembly was to call upon states to further consider these issues in the framework of the 'BBNJ Working Group' with a view to making further progress on this matter[119].

In 2011, at the twelfth meeting of the ICP, it was considered, among other issues, progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development; new and emerging challenges for the sustainable development and use of oceans and seas; and the road to the "Rio+20" Conference and beyond. Concerning the conservation and sustainable use of marine biodiversity in ABNJ, many delegations stressed, again, the need for a specific legal regime under UNCLOS and pointed out the role of the ISA in the protection and preservation of the marine environment (including marine biodiversity) in the Area[120].

2.2.2. The Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (the 'BBNJ Working Group')

[118] A/RES/59/24, §73.
[119] A/62/169, Annex, §1.
[120] A/66/186, §79.

As mentioned above, in light of the growing international attention on the need to address issues related marine biodiversity beyond national jurisdiction, the General Assembly established in 2004 the *Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction* with the following aims:

a) To survey the past and present activities of the United Nations and other relevant international organizations with regard to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction;
b) To examine the scientific, technical, economic, legal, environmental, socio-economic and other aspects of these issues;
c) To identify key issues and questions where more detailed background studies would facilitate consideration by States of these issues;
d) To indicate, where appropriate, possible options and approaches to promote international cooperation and coordination for the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction[121].

Since its establishment, the 'BBNJ Working Group' has held nine meetings (from 2006 to 2015) and is currently the only forum in which all aspects of marine biodiversity in ABNJ have been dealt with in a format that encouraged open discussion by all stakeholders[122]. During the course of these meetings various options to fill the existing legal and institutional gaps have been examined. At the first two meetings in 2006 and 2008 there was a large discussion about the legal status of marine genetic resources (a component of marine biodiversity) found in ABNJ as well as the issue of ABS. Basically, there were divergent views about the legal regime under UNCLOS regarding marine genetic resources in ABNJ, i.e., whether it is applicable the concept of common heritage of mankind associated with the Area and its resources (part XI of UNCLOS and 1994 Agreement) or the high seas regime based on the freedom to use the oceans (part VII of UNCLOS)[123].

[121] A/RES/59/24, §73.
[122] A/66/119, §9.
[123] For further details, see A/61/65 and A/63/79.

The third meeting of the 'BBNJ Working Group', in 2010, continued discussing, among other issues, the relevant legal regime on marine genetic resources in ABNJ in accordance with international law, in particular UNCLOS, with a view to making further progress on this issue. In addition, it was highlighted the urgent need to address the conservation and sustainable use of marine biodiversity in ABNJ, including on the basis of the precautionary approach[124].

The fourth meeting of the 'BBNJ Working Group' was held in 2011and it is particularly important because a package of issues regarding the conservation and sustainable use of marine biodiversity in ABNJ was recommended[125]. This package, that could be addressed together and as a whole, comprises: a) the issue of marine genetic resources in ABNJ, including questions on ABS; b) area based management tools, including marine protected areas in ABNJ; c) environmental impact assessments; and d) capacity-building and the transfer of marine technology[126].

Although the 'BBNJ Working Group' was not able to build the necessary consensus to recommend the opening of negotiations for an international agreement regarding marine biodiversity in ABNJ, it was able to agree that the process should proceed around the basis of the negotiating package[127].

In the last 'BBNJ Working Group' meeting, held from 20 to 23 June 2015, it was recommended to stress the need for the comprehensive global regime to better address the conservation and sustainable use of marine biodiversity in ABNJ. In this regard, it was decided to suggest the development of an international legally binding instrument under UNCLOS on the basis of the package identified during the 2011 'BBNJ Working Group' meeting[128]. It was also reached consensus on a negotiating process, by establishing a preparatory meeting to make recommendations on elements of a draft text of a legally binding instrument to the United Nations General Assembly from 2016 to 2017 and for the General Assembly to decide at its

[124] See A/65/68.
[125] A/66/119, §1(b).
[126] See chapter 4 for a review of each of these issues.
[127] Ibid., §1(a).
[128] A/69/780, §1(e)-(f).

seventy-second session whether to convene an intergovernmental conference to elaborate the text of the agreement[129].

This event represents a substantive progress made in the framework of the 'BBNJ Working Group' towards an international agreement on conservation and sustainable use of marine biodiversity in ABNJ. Since a preparatory committee will start working on making recommendations on the elements of a draft text of a future international agreement under UNCLOS, it also means the end of the mandate of the 'BBNJ Working Group' after nearly a decade of debates.

2.2.3. United Nations General Assembly resolution on the development of an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction

In accordance with the recommendations of the 'BBNJ Working Group', the United Nations General Assembly adopted on 19 June 2015, without a vote, a resolution entitled "Development of an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction". Therefore, it becomes a historic step of launching a new set of negotiations in the framework of UNCLOS on the way to a possible third implementing agreement.

According to the resolution A/RES/69/292, the General Assembly decided to to establish, prior to holding an intergovernmental conference, a preparatory committee, to make substantive recommendations to the General Assembly on the elements of a draft text of an international legally binding instrument under UNCLOS[130]. This preparatory committee will start work from 28 March to 8 April and from 29 August to 12 September 2016 and at least for two more sessions in 2017[131].

[129] Ibid. §1(e).
[130] A/RES/69/292, §1(a).
[131] Ibid. §1(b)-(c).

Before the end of its seventy-second session in 2018, the General Assembly will render a decision on whether and, if so when, to convene an intergovernmental conference, under the auspices of the United Nations, to consider the recommendations of the preparatory committee and to elaborate the text of an international legally binding instrument under UNCLOS. On this point, the resolution also calls upon wide participation, including all states members of the United Nations, members of the specialized agencies and parties to UNCLOS, as well as "others invited as observers in accordance with past practice of the United Nations"[132].

Participation and inclusivity in law-making process is vital to facilitate the creation of universal international law. Regarding ocean affairs, it s clear that non only states are involved in this process: intergovernmental organizations and non-governmental organizations (NGOs) are also prominent actors who are able to contribute to the development of the law of the sea[133]. Both the ICP and the 'BBNJ Working Group' testifies to the growing importance of inclusivity and transparency in modern international law-making, especially in promoting sustainable development of the oceans and their resources. The recent process initiated by the General Assembly will likely follow the same path and, as it has been affirmed, "if this process is managed correctly, the exchange of views and information between a wider range of participants representing civil society, international organizations, and industry associations may lend greater legitimacy and accountability to the process and outcome"[134].

Remembering once again that UNCLOS by itself is not the end of legal regulation in the field of the law of the sea, the potential development of a legally binding instrument regarding the conservation and sustainable use of marine biodiversity in ABNJ would mean an opportunity to fill the current gaps and provide a coherent and comprehensive regime thereon in accordance with the contemporary concerns of the international community.

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[132] Ibid. §1(a).

[133] James Harrison, *Making the Law of the Sea. A Study in the Development of International Law* (Cambridge, Cambridge University Press, 2011), pp.280-282.

[134] Anna-Maria Hubert, "UN General Assembly Resolution to Develop a New Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction", 14 August 2015. Available from http://ablawg.ca/2015/08/14/un-general-assembly-resolution-to-develop-a-new-legally-binding-instrument-on-the-conservation-and-sustainable-use-of-marine-biological-diversity-of-areas-beyond-national-jurisdiction/ (accessed 30 August 2015).

PART II

TOWARDS AN INTERNATIONAL LEGAL REGIME FOR THE MARINE BIOLOGICAL DIVERSITY BEYOND AREAS OF NATIONAL JURISDICTION: A PERUVIAN PERSPECTIVE

CHAPTER 3

LEGAL STATUS OF THE MARINE BIOLOGICAL DIVERSITY IN AREAS BEYOND NATIONAL JURISDICTION

3.1. Legal status of the marine biological diversity in areas beyond national jurisdiction

3.1.1. Common heritage of mankind versus freedom of the high seas

As noted in the previous chapter, the applicable legal regime for marine biodiversity in ABNJ was in the center of discussions during the meetings of the 'BBNJ Working Group' as well as in a meeting of the ICP. There have been two antagonistic positions in both international fora.

Some states (particularly those belonging to the Group of 77 and China) considered that the principle of common heritage of mankind set up in Part XI of UNCLOS should be extended to cover marine genetic resources and therefore the mandate of the ISA should also be extended[135]. One of the ways to achieve this would be thought an implementing agreement to UNCLOS.

However, on the opposite side other states relied on the principle of freedom of the high seas set up in Part VII of UNCLOS. If so understood, it would imply the right of freedom of access and unrestricted exploitation of these components of marine biodiversity. Consequently, there would not be a need for a new legal regime[136].

The concept of common heritage of mankind applying to the Area has five basic elements which are included in Part XI of UNCLOS: the prohibition of national appropriation (article 137); the destination of the seabed for peaceful purposes (article 141); the use of the seabed and its resources for the benefit of mankind with particular consideration for the interests and needs of developing countries (article 140); the establishment of an international organization entitled to act on behalf of mankind in the exercise of rights over the resources (article 156); and the

[135] A/61/65, § 71.
[136] Ibid. § 72.

protection and conservation of the environment, including flora and fauna, for future generations (article 145). The 1994 Agreement, which modified many topics of Part XI, does not alter the basic core of this concept as established in UNCLOS itself[137].

Regarding the discussions about the legal regime of marine biodiversity in ABNJ, it is clear that, because of chronological reasons, neither the regime of the Area and its mineral resources nor the regime of freedom of the high seas are applicable to it. This is more evident in the case of marine genetic resources, where there are not current regulations on bioprospecting and the sustainable use for these components in both marine spaces.

Due to the legal division between the Area (i.e., the seabed and ocean floor beyond EEZ) and the high seas (i.e., the water column superjacent to the Area), the issue relating to marine biodiversity in ABNJ is complex and still unresolved. It is known that exist a symbiotic relationship between pelagic organisms and those attached to the Area and that the mineral resources and the biological resources are physically connected[138]. While it is clear that the marine life on and near the Area has to be protected, it is not clear how this should be done.

Should the marine biodiversity in the high seas and in the Area be protected separately or under a single regime? Applying the concept of common heritage of mankind under a single integrated regime on the basis of its core elements would be certainly desirable. Desirable, first of all, for the international community as a whole, because the use of marine biodiversity would be protected for the present and future generations. And desirable, specifically, for developing countries like Peru, which do not have the ability (in technological and financial terms) to access and benefit these resources individually. As it has been affirmed in the 2006 'BBNJ Working Group':

> [A] number of delegations stated that, in accordance with their understanding of the principle of the common heritage of mankind, access to genetic resources in the deep seabed beyond areas of national jurisdiction should be, in principle, like the mineral resources in the Area, subject to the sharing of benefits based on consideration of

[137] UNCLOS, article 311.6.
[138] La Fayette, "A New Regime for the Conservation and Sustainable" (see footnote 87), p.258.

> equity. To emphasize this point of view, they noted the symbiotic relationship that genetic resources had with non-living marine resources and other living resources in the surrounding water column. ... The mandate of the Authority, which currently covered the protection of the marine environment, including biodiversity, under article 145 of the United Nations Convention on the Law of the Sea, could potentially be expanded to deal with all issues relating to deep-sea biodiversity, including genetic resources. In this regard, an objection was expressed to any provisions purporting to grant free access or unrestricted freedom of exploitation of genetic resources beyond areas of national jurisdiction[139].

However, this perspective, which has been described as "fundamentalist" by certain author[140], is far from becoming a reality. Will the states willing to give up the freedoms of high seas (e.g. the freedom of fishing) in favor of an international authority? It does not seem a viable option for developed countries, at least as emerged from the views expressed by them in the international fora:

> Other delegations reiterated that any measures that may be taken in relation to genetic resources in areas beyond national jurisdiction must be consistent with international law, including freedom of navigation. In their view, these resources were covered by the regime of the high seas, which provided the legal framework for all activities relating to them, in particular marine scientific research. These delegations did not agree that there was a need for a new regime to address the exploitation of marine genetic resources in areas beyond national jurisdiction or to expand the mandate of the International Seabed Authority[141].

This position is not satisfactory for several reasons. Firstly, the "first-come first-served" regime, based on exclusive flag state jurisdiction, is not adequate to manage marine biodiversity (and every kind of natural resource in general) and it could lead to undesirable consequences, e.g., the extinction of the resource. The fact is that the erosion of the principle of freedom of the sea has

[139] A/61/65, §29.
[140] David Leary, "Moving the Marine Genetic Resources Debate Forward: Some Reflections", *The International Journal of Marine and Coastal Law*, vol. 21, No.2 (2012), p.438.
[141] A/61/65, §71. See also A/62/169, §79.

been the main trend in the evolution of international law of the sea since new interests and activities required a specific regulation[142]. In connection with this assessment, the management of resources in the global commons requires cooperation among states, as seen, by choice, in the case of straddling fish stocks and highly migratory fish stocks. In this regard, the 1995 United Nations Fish Stock Agreement was critical in strengthening the UNCLOS provisions on that matter.

The long debate about the legal status of marine biodiversity in ABNJ - in particular marine genetic resources - has not reached any solution so far. The package of issues regarding the conservation and sustainable use of marine biodiversity in ABNJ, identified by the 2011 'BBNJ Working Group', is a step forward in the search for a successful legal framework but the dispute over the applicability of the common heritage of mankind or the freedom of the high seas will not necessarily go away. Such as stated by Leary, "neither side will be able to convince the other that its interpretation of the applicability of the common heritage of mankind or otherwise is the correct interpretation of international law"[143]. While both groups of states move from the same starting point and recognize UNCLOS as "the legal framework for all activities in the oceans and seas, including in respect of genetic resources beyond areas of national jurisdiction"[144], both of them reach opposite conclusions with regard to the same issue. As noted by Scovazzi, it is possible that the starting point "is not as solid as it seems at first sight"[145].

States should focus on pragmatic approaches in relation to the conservation and sustainable use of marine biodiversity in ABNJ. It is time to go further the theoretical deliberations and advance on the key elements identified for a future international regime. In doing so, the marine biodiversity as a whole will be suitably protected and its utilization will be governed by equitable and efficient rules.

3.1.2. Common concern of mankind versus freedom of the high seas

[142] Tullio Scovazzi, "The Concept of Common Heritage of Mankind and the Genetic Resources of the Seabed beyond the Limits of National Jurisdiction", *Agenda Internacional*, vol.14, No.25 (2007), p.22.
[143] Leary, "Moving the Marine Genetic Resources Debate Forward" (see footnote 140), p.440.
[144] A/63/79, §36.
[145] Scovazzi, "The assumption that the United Nations Convention on the Law of the Sea is the legal framework for all activities taking place in the sea" (see footnote 77), p.242.

Unlike the common heritage of mankind, the concept of common concern of mankind is relatively recent as it appeared in the early 1990s[146]. Mainly, the idea of this concept is that the natural resources remain subject to the regime of sovereignty, freedom or common heritage (whether they are in areas within national jurisdiction, the high seas or the Area) but their management requires a holistic approach that takes into account the general interest of humanity in their conservation[147]. So understood, the common concern would serve as a possible limitation on the principle of freedom applicable to the regime of the high seas.

The concept of common concern of mankind might play a subsidiary role in safeguarding the general interest of the international community where specific regulatory models does not exist, e.g., the conservation and sustainable use of marine biodiversity in ABNJ, and it also could play a complementary role where legal frameworks already work, e.g., reinforcing the principle of common heritage of mankind applicable to the Area and its resources[148].

The common concern of mankind is especially relevant in the field of biodiversity, as set out in the CBD, because it involves a framework of global environmental responsibilities, distinct from those responsibilities which are merely regional or transboundary in character[149]. The need for a global environmental responsibility can also be identified in the Preamble and some provisions of UNCLOS[150] dealing with the protection of marine environment, the 1995 United Nations Fish Stock Agreement[151] and in Chapter 17 of Agenda 21[152].
Although the common concern as a concept involves a legal status for biological resources, it is particularly different from the idea of permanent sovereignty, common property, shared resources or common heritage of mankind. In the case of CBD, the application of the common

[146] See the third paragraph of the Preamble of the CBD (1992), the first paragraph of the United Nations Framework Convention on Climate Change (1992), and the third paragraph of the Preamble of ITPGRFA (2001).
[147] Francesco Francioni, "International Law for Biotechnology: Basic Principles", in *Biotechnology and International Law*, Francesco Francioni and Tullio Scovazzi, eds. (Oxford, Hart Publishing, 2006), p.15.
[148] Ibid., p.16.
[149] Birnie, Boyle and Redgwell. *International Law & the Environment* (see footnote 83), p.128.
[150] See the third paragraph of UNCLOS which asserts that the states parties to this Convention are "conscious that the problems of ocean space are closely interrelated and need to be considered as a whole". See also, articles 145, 192,193,197,207,209 and 212.
[151] See article 5.
[152] The first paragraph of Chapter 17 states that "the marine environment […] forms an integrated whole that is an essential component of the global life-support system and a positive asset that presents opportunities for sustainable development".

concern does not mean the internationalization of biological resources as in part XI of UNCLOS and neither it turns them into common property accessible for exploitation by all states[153].

The main implication of this concept is that it could give the international community a legitimate interest in resources of global significance - like marine genetic resources in ABNJ - and a common responsibility to support in their sustainable development as well as in its international regulation and supervision. In this regard, it has been noted that global responsibility comprises an *erga omnes* character aimed at the international community as a whole and not only to other states *inter se*[154].

In connection therewith, the common concern of mankind marks a shift from the traditional conception of international legal obligations to a modern vision of right and duties pertaining to all the members of the international community, resulting in "the promotion and enhancement of a rational, prudent and sustainable use of biodiversity"[155].

Viewing it as an alternative to the two extreme positions in the debate on the applicable legal regime to marine biodiversity in ABNJ, the concept of common concern of mankind might be useful to mitigate the freedom of access to these resources – which is the status quo – and outlaw certain practices that are clearly contrary to the general interest of mankind, e.g., unsustainable bioprospecting, habitat loss and marine pollution. Indeed, marine biodiversity in ABNJ as a common concern of mankind would mean that these natural resources could not be considered as solely subject to flag state jurisdiction due to their global importance and it would also reaffirm the duty for international cooperation regarding their conservation and sustainable use[156].
A potential application of this concept to marine biodiversity in ABNJ will certainly not solve all the gaps regarding its conservation and sustainable use but, as it has been noted, in some way it goes in the same direction as the principle of common heritage of mankind set up in UNCLOS,

[153] Birnie, Boyle and Redgwell. *International Law & the Environment* (see footnote 83), p.130,
[154] Ibid.
[155] Riccardo Pavoni, "Biodiversity and Biotechnology: Consolidation and Strains in the Emerging International Legal Regimes", in *Biotechnology and International Law* (see footnote 147), p.32.
[156] Greiber, "Common pools for marine genetic resources: a possible instrument for a future multilateral agreement addressing marine biodiversity in areas beyond national jurisdiction" (see footnote 102), p.409.

specifically regarding the ABS of these living resources, which should be fair and equitable[157]. Therefore, it is arguably the common concern of mankind could provide "the rationale and legal foundation" for an ABS regime for marine biodiversity in ABNJ[158].

As it was suggested by some delegations during the meetings of the 'BBNJ Working Group', in the absence of consensus about the legal regime for the conservation and sustainable use of marine biodiversity in ABNJ, it is necessary to focus on practical resource management issues like the following:

> [P]romotion of marine scientific research; development of codes of conduct for research activities; environmental impact assessments, including the development of guidance on assessments of impacts on marine genetic resources within the general process of environmental impact assessment; establishment of mechanisms for cooperation, sharing of information and knowledge resulting from research on marine genetic resources, including by increasing participation of researchers from developing countries in relevant research projects; establishment of marine protected areas, discussion of practical options for benefit-sharing, including options for facilitating access to samples; and consideration of the intellectual property aspects of marine genetic resources beyond areas of national jurisdiction[159].

In this regard, the common concern of mankind could play an important role as a supplementary tool without adhering necessarily to a particular legal regime. A way out of (so far) two unwavering positions while waiting for an integrated and comprehensive framework for marine biodiversity in ABNJ.[160]

3.2. Gaps in the existing international legal framework

[157] Tullio Scovazzi, "Bioprospecting on the Deep Seabed: a Legal Gap Requiring to be Filled", in in *Biotechnology and International Law* (see footnote 147), p.93.
[158] Bevis Fedder, *Marine Genetic Resources, Access and Benefit Sharing: Legal and Biological* Perspectives (Oxon, Routledge, 2013), p.33.
[159] A/65/68, §73.
[160] This suggestion, however, it is not without its critics as stated during the 2011 'BBNJ Working Group': "[Some]delegations also stressed that all conservation tools should be examined on their own merits, and expressed concerns about the adoption of practical or short-term measures without a definition of the relevant legal regime". See, A/66/119, §13.

3.2.1. Which is the *status quo*?

It has been argued that there is a legal gap requiring to be filled in the field of marine biodiversity in ABNJ. This situation is even more evident in the case of marine genetic resources, where their current exploitation in ABNJ carried out under the regime of freedom of the high seas is the *status quo*. The previous assertion is not hasty: it is supported basically by state practice in over twenty years of taking samples of marine genetic resources in ABNJ[161]. On purpose, a report presented at the eight meeting of the ICP in 2007 stated that:

> As a matter of customary international law and under the [UNCLOS] it is generally accepted that marine genetic resources are freely accessible to all, that is to say access to and the sampling of marine genetic resources in the High Seas is regarded as a legitimate exercise of freedom of the High Seas[162].

The Group of 77 and China, which endorses the application of the principle of common heritage of mankind to marine biodiversity in ABNJ, issued a new statement during the 2015 'BBNJ Working Group', regarding the need to change the existing conditions *vis-à-vis* the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction:

> It is common cause that the legal gap concerning the access to and benefit from marine genetic resources from areas beyond national jurisdiction creates a situation in which some exploit these resources that are common heritage of mankind without the concomitant obligation to share the benefits and also in a manner that is inconsistent with UNCLOS. This is not acceptable, and for that reason the G77 and China have repeatedly stated that a continuation of the status quo is not an option[163].

[161] Arianna Broggiato, "Marine Genetic Resources beyond National Jurisdiction: Coordination and Harmonisation of Governance Regimes", *Environmental Policy and Law*, vol. 41, No. 1 (2011), p.36.
[162] United Nations University, "An Update on Marine Genetic Resources: Scientific Research, Commercial Uses and a Database on Marine Bioprospecting", report presented at the United Nations Informal Consultative Process on Oceans and the Law of the Sea, Eight Meeting, New York, 25-29 June 2007, §5.1.
[163] Statement on behalf of the G77 and China by His Excellency, Ambassador Kingsley J.N. Mamabolo, Permanent Representative of the Republic of South Africa to the United Nations, at the Meeting of the Ad Hoc Open-Ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological

Several academics have also reiterated that the *status quo* of the exploitation of marine biodiversity in ABNJ (in particular the marine genetic resources) is the freedom of the high seas[164]. In that sense, the states who carry out bioprospecting activities press to maintain the open access to marine genetic resources in order to keep the benefits associated with it, particularly regarding intellectual property rights[165].

Due to the principle of freedom, which is limited by general obligations under international law[166], control and enforcement on the high seas are the responsibility of flag States. In the case of bioprospecting, that rule is no different. However, so far no State has adopted any specific legislation in order to regulate the use of components of biodiversity by its nationals on the high seas, bypassing the CBD obligation to regulate processes and activities carried out under its jurisdiction or control, "regardless of where their effects occur"[167]. It is likely that the large investment required for bioprospecting has led States not to regulate this kind of activity in order to further encourage investment, although, as noted, investors can also be discouraged by legal uncertainty[168]. The need for legal clarity for investors was highlighted at the eight meeting of the ICP in 2007:

> Several delegations highlighted the importance of creating an enabling environment for the collection of marine genetic resources. The view was expressed that across the diversity of users, there was a common desire to have a legal framework that

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diversity of areas beyond national jurisdiction (New York, 20 January 2015). Available from http://www.g77.org/statement/getstatement.php?id=150120b (accessed 16 September 2015).

[164] See, among others, Lyle Glowka, "Genetic Resources, Marine Scientific Research and the International Seabed Area", Review of European Community and International Environmental Law, vol.8, No.1 (1999), p.58; Craig H. Allen, "Protecting the Oceanic Gardens of Eden: International law issues in deep-sea vent resource conservation and management", *Georgetown International Environmental Law Review*, vol.13, No.3 (2001), pp.658-660; Salvatore Aricò and Charlotte Salpin, *Bioprospecting of Genetic Resources in the Deep Seabed: Scientific, Legal and Policy Aspects* (Yokohama, United Nations University, Institute of Advanced Studies, 2005), p.58; Pavoni, "Biodiversity and Biotechnology" (see footnote 147), pp.37-38; Brogiatto, "Marine Genetic Resources beyond National Jurisdiction" (see footnote 161), pp.35-36;

[165]Council of the European Union*, Reflections on the Management of Genetic Resources in Areas Beyond National Jurisdiction* (Brussels, Secretary-General of the European Commission, 2006), p.9.

[166] See UNCLOS, articles. 87.2, articles 145,192,194 and 209.

[167] CBD, article 4.b.

[168] Broggiato, "Marine Genetic Resources beyond National Jurisdiction" (see footnote 161), p.36.

> would provide certainty or predictability before undertaking research in the marine environment.
>
> Some delegations considered that an enabling environment was also needed for activities in deep seabed areas including from the commercial point of view. It was suggested that clear regulatory frameworks could encourage companies to operate in areas beyond national jurisdiction, counterbalancing the significant financial investment and advanced technology needed for deep-sea activities[169].

Certainly, maintaining the *status quo* is not a suitable choice because it entails more disadvantages rather than advantages. Firstly, from a comparative perspective, it is likely that it would mean the risk of overexploitation and destruction of marine habitats in ABNJ since the access and use of marine biodiversity would remain unregulated. In addition, an eventual adoption of relevant measures by flag States would not guarantee the establishment of coordinated and coherent regulations in this matter[170]. This would be unfortunate regarding the comprehensive conservation and sustainable use that marine biodiversity in ABNJ requires.

Moreover, it is true that the *status quo* favors the minority of States that have the technology and financial capacity to access deep seabed ecosystems. In fact, participation in bioprospecting activities is represented by companies and research bodies from developed States (mainly the United States and various European States)[171].

Additionally, the *status quo* offers no organized framework for an equitable sharing of the benefits resulting from the exploitation of marine genetic resources in ABNJ. This approach would be therefore unsuitable regarding the ABS needs of the international community as a whole due to the lack of clarity of the rules governing conservation and sustainable use of marine biodiversity in ABNJ.

Having asserted that the *status quo* as a *de facto* regime is not a sustainable situation nor an acceptable choice, as highlighted during several 'BBNJ Working Group' meetings[172], it is

[169] A/62/169, §42-43.
[170] Arico and Salpin, *Bioprospecting of Genetic Resources in the Deep Seabed* (see footnote 164), p.58.
[171] United Nations University, "An Update on Marine Genetic Resources" (see footnote 162), §3.2.
[172] See, for example, A/66/119, §42; A/69/177, §78; A/69/780, §12.

necessary to note that there are significant challenges that must be addressed in order to guarantee a suitable legal framework for marine biodiversity in ABNJ, e.g., the issues identified during the 2011 'BBNJ Working Group'[173]. Going a step forward in this regard rests with the will of the international community to negotiate a legally binding instrument dealing with these contemporary matters.

The sharp divergence of interests amongst States has played in favour of maintaining the *status quo* because discussions in the international fora did not lead to any agreement. Is the best regulation no regulation at all? Taking into consideration the current regulatory and institutional gaps and weaknesses – which undermine not only the protection and preservation of the marine environment but also the potential role of the ocean for sustainable development for all[174] – the answer should be negative. It is necessary to depart from the current state of affairs, which is fragmented and incomplete regime, to a global and coherent structure of legal rules for governing marine biodiversity in ABNJ.

It is expected that the future negotiations of an implementing agreement under UNCLOS framework, according to the the United Nations General Assembly adopted on 19 June 2015[175], mean a major step forward for global sustainability and a new era in ocean governance, as well as a break of the *status quo*, which is inappropriate for the sustainability of oceans.

3.2.2. The institutional issue: an extension of the mandate of the International Seabed Authority?

In the context of the 'BBNJ Working Group', several States have suggested that the mandate of the ISA should be extended in relation to marine biodiversity in ABNJ, in particular to the management of marine genetic resources and ABS related thereto:

> Some delegations stressed the importance of not creating onerous and burdensome governance structures. Rather, an efficient and effective governance structure that

[173] See above, chapter 2.2.2.
[174] Kristina M. Gjerde, "Challenges to Protecting the Marine Environment beyond National Jurisdiction", The International Journal of Marine and Coastal Law, vol.27, No. 4 (2012), p.844.
[175] See above, chapter 2.2.3.

complements, and does not inhibit, existing efforts, including those of a sectoral and regional nature, was proposed.

Several delegations considered that a future implementing agreement should establish institutional mechanisms to assist States parties in implementing their obligations thereunder, and that given its positive contributions to date, the mandate of the International Seabed Authority could be expanded to oversee the implementation of a future implementing agreement[176].

Although the regime of the Area does not include other than mineral resources, it can be argued that the scope of this regime is much broader. In fact, as it has been noted, the legal condition of the Area also has an influence on the regulation of activities that are located in that maritime space, even if those activities are different from minerals and mining[177].

First of all, under article 143.3 of UNCLOS, States are obliged to promote international cooperation with the ISA when carrying out marine scientific research in the Area. It is clear that article 143 is not limited to marine scientific research involving mineral resources in the Area, therefore States exploring marine genetic resources in the Area are required to cooperate with the ISA. Thus understood, this article categorically discards the position that supports the idea of absolute freedom of the high seas for marine scientific research activities on genetic resources in the Area[178].

Secondly, it is to highlight the responsibility of the ISA to protect the environment of the Area. In this regard, article 145 requires the ISA to adopt the appropriate rules, regulations and procedures for, *inter alia*:

a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of

[176] A/69/177, §21-22.
[177] Scovazzi, "The assumption that the United Nations Convention on the Law of the Sea is the legal framework for all activities taking place in the sea" (see footnote 77), p.243.
[178] Tanaka, *The International Law of the Sea* (see footnote 12), p.341.

waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;

b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

The reference in paragraph b) of article 145 reaffirms the premise that the environmental protection of the Area is a prerequisite to conserve biological resource there and that role of the ISA is and will be important in this field, including the matter of marine genetic resources. Hence, the regime of the Area encompasses subjects which deserve insightful attention, mainly the role of the ISA as an international organization bearing "the responsibility to realize a just and equitable economic order for the oceans and the seas"[179].

Moreover, from the perspective of efficiency and consistency, it seems to be more feasible to extend the mandate of existing institutions than to create increasingly specialized ones with partially overlapping competences each other[180]. In this sense, the ISA has proved to be a key player in the ongoing debate about the legal regime for marine biodiversity in ABNJ.
The central importance this institution might acquire, should extend its mandate, is related to facilitate an integrated approach with regard to the management of the Area as well as a leading role in the establishment of marine protected areas in ABNJ[181]. Additionally, as it has been noted, the ISA, after the adoption of the 1994 Agreement, is organized "in a way that might make an extension of its mandate acceptable also to developed States"[182].

Regarding the ABS of marine genetic resources in ABNJ, it would be necessary at least a small permanent structure in order to negotiate arrangements with bioprospectors and act as a mechanism for the distribution of such benefits[183]. Certainly, such a structure might be

[179] Scovazzi, "The assumption that the United Nations Convention on the Law of the Sea is the legal framework for all activities taking place in the sea" (see footnote 77), p.244.
[180] Nele Matz-Luck, "The Concept of the Common Heritage of Mankind: Its Viability as a Management Tool for Deep Sea Genetic Resources", in *The International Legal Regime of Areas Beyond National Jurisdiction: Current and Future Developments*, Alex G. Oude Elferink y Erik J. Molenaar, eds. (Utrech, Martinus Nijhoff, 2010), p.70.
[181] Alex G. Oude Elferink, "The Regime of the Area: Delineating the Scope of Application of the Common Heritage Principle and Freedom of the High Seas", *The International Journal of Marine and Coastal Law*, vol. 22, No 1 (2007), p.170.
[182] Ibid.
[183] Petra Drankier and others, "Marine Genetic Resources in Areas beyond National Jurisdiction: Access and Benefit-Sharing", *The International Journal of Marine and Coastal Law*, vol. 27, No 1 (2012), p.429.

represented by a new entity, but assigning this role to the ISA could be strategic due to its scientific and technical expertise. The environmental protection framework and specific measures reflected in some of its regulations (e.g., the Regulations on Prospecting and Exploration for Polymetallic Nodules and the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts) could be employed as a model for similar environmental protection framework in relation to marine biodiversity in the Area, which would be tremendously relevant to bioprospecting activities[184].

On the other hand, in the event that a separate framework for marine genetic resources in ABNJ is developed, it might be likely that it conflicts with the existing regime of the Area, since mineral and marine biodiversity may coexist on the same habitats[185]. An extension of the ISA's mandate would avoid a fragmentation in the regime of ABNJ.

It can be argued that the ISA is a qualified entity to carry out many of the responsibilities associated with marine genetic resources, so it should be considered within the legal, political and diplomatic debates underway, in particular the coming preparatory committee in charge of making substantive recommendations to the United Nations General Assembly on the elements of a draft text of an international legally binding instrument under UNCLOS.

The extension of the mandate of the ISA to include marine genetic resources would require the negotiation of a new implementing agreement to UNCLOS in this matter. However, opting for this option entails a decision that does not enjoy the acceptance of all States, as it could be seen during the 'BBNJ Working Group' meetings:

> Other delegations reiterated that any measures that may be taken in relation to genetic resources in areas beyond national jurisdiction must be consistent with international law, including freedom of navigation. In their view, these resources were covered by the regime of freedom of the high seas, which provided the legal framework for all activities relating to them, in particular marine scientific research. These delegations did not agree that there was a need for a new regime to address the

[184] Robin Warner, *Protecting the Oceans Beyond National Jurisdiction: Strengthening the International Law Framework* (Leiden, Martinus Nijhoff Publishers,2009), p.226.
[185] Ibid.

exploitation of marine genetic resources in areas beyond national jurisdiction or to expand the mandate of the International Seabed Authority[186].

Definitely, the extension of the mandate of the ISA is one of the most difficult issues regarding the search for a legal regime for the conservation and sustainable use of marine biodiversity in ABNJ. Aside from the long debate in relation to the applicable legal regime for marine biodiversity in those areas (i.e. common heritage of mankind vs. freedom of the high seas), new and practical cooperative schemes should be explored, based mainly on ABS provisions, which is perhaps the most sensitive topic as well as controversial.

CHAPTER 4

SOME ELEMENTS OF A POSSIBLE IMPLEMENTING AGREEMENT: UNPACKING THE 2011 PACKAGE

4.1. Access and Benefit Sharing (ABS) and Capacity Building and the Transfer of Marine Technology

4.1.1. The issue of Access and Benefit Sharing (ABS)

The question of ABS of marine genetic resources in ABNJ is not effectively addressed under either UNCLOS or the CBD. As it was noted in chapter 2, UNCLOS does not explicitly mention the term "marine genetic resources" (although relevant provisions can be applied to activities involving them) and the CBD (along with the Nagoya Protocol) does not apply directly to these resources beyond national jurisdiction.

[186] A/61/65, §72.

It is necessary to distinguish two broad approaches when analyzing possible options for regulating ABS of marine genetic resources in ABNJ: the bilateral approach and the multilateral approach. The bilateral approach is the one applied under the CBD and the Nagoya Protocol. Within this system - which involves the negotiation of mutually agreed terms between the provider and user of a genetic resource - provider States hold sovereignty rights over genetic resources (which give them regulatory control over the access of these resources)[187], and users who seek access are required to share the benefits they derive from any utilization with the provider State[188]. In doing so, genetic resources become a valuable asset from which benefits may flow back to the provider country. It incentivizes States to conserve and use biological resources sustainably in order to protect the potential for new discoveries and the possibility of receiving future benefits, which could contribute to the environmental protection as well as the social and economic development[189].

As seen in chapter 2, such a bilateral approach is not applicable to marine genetic resources in ABNJ under UNCLOS since these resources do not fall under the jurisdiction of a particular State or a global entity that could grant its consent and negotiate an ABS agreement with a stakeholder. In this regard, creating a global entity or expanding the mandate of an existing one – like, for instance, the ISA – is a possibility but it would require the political will by the States, which is currently a very complicated matter in light of the recent international debates. Anyway, as it has been highlighted[190], taking the bilateral approach is not the most efficient alternative due to the high management costs and bureaucracy associated with it.

On the other side, the multilateral approach establishes an ABS system based on common pools of resources which are designed to facilitate access to genetic resources and ensure the fair and equitable sharing of benefits arising from their utilization under multilaterally agreed terms. One example of this approach can be found in the ITPGRFA.

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[187] CBD, article 15.1.

[188] See CBD, article 15,16 and 19; Nagoya Protocol, articles 5 and 6.

[189] Fedder, *Marine Genetic Resources, Access and Benefit Sharing* (see footnote 158), p.22.

[190] Thomas Greiber, "Options and Approaches for Access and Benefit-sharing" in *An International Instrument on Conservation and Sustainable Use of Biodiversity in Marine Areas beyond National Jurisdiction: Exploring Different Elements to Consider*, International Union for Conservation of Nature (ed.), p.17. Available from: https://www.iucn.org/about/work/programmes/environmental_law/elp_work/elp_work_issues/elp_work_biodiv/elc_marine_biodiversity/ (accessed 6 November 2015).

Drawing on the model used by the ITPGRFA, it can be considered the creation of a common pool to cover all marine genetic resources in ABNJ as well as associated information. However, consistent with the comments provided in chapter 2 of this study[191], it can be argued that the ITPGRFA model does not provide a realistic solution for the issue of ABS of marine genetic resources in ABNJ, although some of its elements can be useful for the design of a future regime for marine biodiversity in ABNJ.

First of all, regarding the access to marine genetic resources, it should be necessary to distinguish between marine scientific research and bioprospecting. How could we identify each of these activities? UNCLOS does not provide provide a definition of 'marine scientific research', but it can be understood as "any scientific study or related experimental work having the marine environment as its object which is designed to increase knowledge of the oceans"[192]. In UNCLOS, marine scientific research involves the collection of information, data or samples, and is characterized by transparency, the availability of knowledge and data as well as the dissemination and publication of research results[193]. What is more important, marine scientific research covers activities not conducted for any economic purposes; otherwise it would not be considered as such[194].

Meanwhile, it does not exist a definition of 'bioprospecting' among relevant international instruments either. According to the COP of the CBD it should mean "the exploration of biodiversity for commercially valuable genetic and biochemical resources" or "the process of gathering information from the biosphere on the molecular composition of genetic resources for the development of new commercial products"[195].

[191] See above, chapter 2.1.1.c.
[192] Tanaka, *The International Law of the Sea* (see footnote 12), p.360.
[193] See UNCLOS, article 244.
[194] Fedder, *Marine Genetic Resources, Access and Benefit Sharing* (see footnote 158), p.44.
[195] Fifth Conference of the Parties to the Convention on Biological Diversity, *Progress Report on the implementation of the programmes of work on the biological diversity of inland water ecosystems, marine and coastal biological diversity, and forest biological diversity (Decisions iv/4, iv/5, iv/7)*, Nairobi, 15-26 May 2000 (UNEP/CBD/COP/5/INF/7), §6.

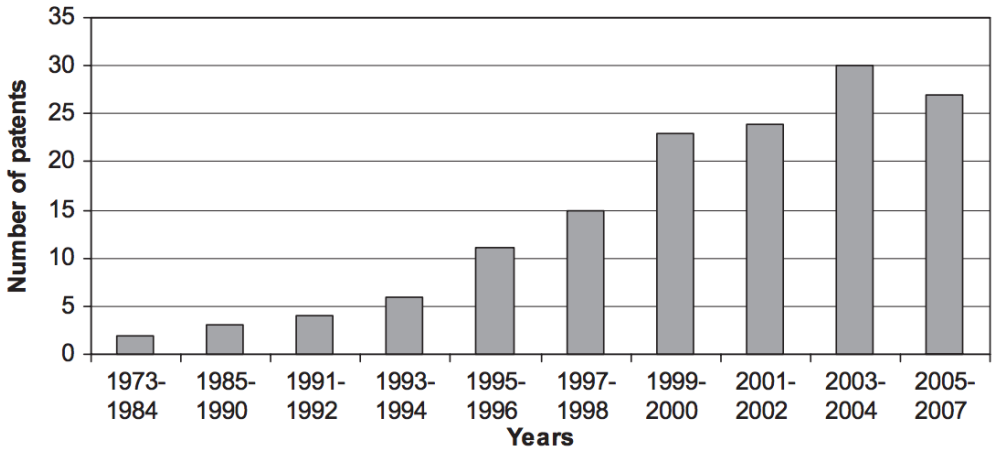

Figure 9. Number of patents involving marine genetic resources filed between 1973 and 2007

Source: David Leary and others, "Marine genetic resources: A review of scientific and commercial interest" (see footnote 190)

Even though the distinction between marine scientific research and bioprospecting remains thin in practice, it is essential to determine the legal regime applicable to each of these activities, especially in ABNJ where marine genetic resources do not fall under the jurisdiction of a particular State or international authority.

Bioprospecting of marine genetic resources is a profitable activity as evidenced in the number of patents on marine genetic resources in recent years. The amount of scientific publications on this matter demonstrates the growing importance of these resources for both scientist and stakeholders[196].

Industry	Total estimated value of world market	Selected product annual sales value
Pharmaceutical industry	$643 billion in 2006	• $50 m and $100 m for herpes remedy from sea sponge (2005) • $1 billion cancer fighting agents from marine sources (2005) • $23 million for AIDS drug Retrovir (2005) • $237 million for herpes treatment Zovirax (2006)
Enzyme market	• Minimum of $50 billion a year for enzymes • 1 billion per year for the DNA extraction market	• Estimated $150 million per year for Valley Ultra Thin (from deep sea hydrothermal vent source) • Estimated $20-30 million for Luminase (from geyser)
Cosmetics industry	• Total $231 billion in 2005 • $38.3 billion globally in 2005 for skin care products	Not available

Figure 10. The value of marine genetic resources

Source: David Leary and others, "Marine genetic resources: A review of scientific and commercial interest" (see footnote 190)

[196] David Leary and others, "Marine genetic resources: A review of scientific and commercial interest", *Marine Policy*, vol. 33, No 2 (2009), p.192.

It is necessary to regulate the access to marine genetic resources in order to ensure fairness and equity in the benefit sharing arising from their utilization. The definition of what 'marine scientific research' and 'bioporspecting' means could play a central role in this regard. From a dual perspective, the *status quo* of the exploitation of marine genetic resources in ABNJ is not convenient.

From a conservation perspective, the "first-come first-served" formula is unsatisfying since sampling at fragile ecosystems (such as those located in the Area) could become so numerous or destructive that marine biodiversity is threatened[197]. As a consequence of that, the benefits potentially generated from their utilization could be lost.

From an ethical perspective, it is the responsibility of the entities (public or private) with the ability to access and use marine genetic resources to share the benefits with those unable to do so[198]. This is consistent with the idea embodied in UNCLOS Preamble regarding "the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries". Therefore, it is clear that the future legal status of marine genetic resources should be inspired by the common heritage of mankind, without this meaning an exact replica of the regime provided to the Area and its mineral resources.

The utilization of marine genetic resources may generate two kinds of benefits, which are monetary and non-monetary. Sharing of non-monetary benefits is often perceived as the most practical and immediately valuable consequence of ABS of genetic resources. On this subject, UNCLOS provides some elements of non-monetary benefit sharing related to marine scientific research:

- Promotion of international cooperation in marine scientific research (article 242).
- Publication and dissemination of information and knowledge (article 244.1).

[197] Broggiato, "Marine Genetic Resources beyond National Jurisdiction" (see footnote 161), p.41.
[198] Fedder, *Marine Genetic Resources, Access and Benefit Sharing* (see footnote 158), p.62.

- Promotion of the flow of scientific data and information and the transfer of knowledge (article 244.2).

Meanwhile, the CBD also provides some regulations on non-monetary benefit sharing that might be considered:

- Endeavor to develop and carry out scientific research within the provider State and with the full participation of the provider State (article 15.6).
- Effective participation of the provider State in biotechnological research activities on its genetic resources (article 19.1).
- Exchange of information from all publicly available sources, relevant to the conservation and sustainable use of biodiversity (article 17)
- Promotion of technical and scientific cooperation, including methods of cooperation for the development and use of technologies, and joint research programs relevant for benefit sharing (articles 18.1,18.4 and 18.5).

These provisions might be used as a basis for further developments of non-monetary benefit-sharing obligations under a multilateral ABS system, which seems to be more efficient than a bilateral one. Such a multilateral system could, among others and with reference to the Nagoya Protocol (Annex), focus on the following non-monetary benefits:

- Collaboration, cooperation and contribution in scientific research and development programs.
- Participation in product development.
- Facilitated access to *ex situ* resources and to databases.
- Collaboration, cooperation and contribution in education and training.
- Training related to genetic resources with the full participation of countries providing genetic resources, and where possible, in such countries.
- Access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies.

Although some of these measures are already practiced (with varying success), it is worth nothing that an overall strategy as well as a structured framework to promote the coordination and integration of the diverse benefit-sharing activities should be considered in the negotiation of a future international instrument regarding marine biodiversity in ABNJ, in order to ensure the quality, efficiency and effectiveness of such non-monetary benefit sharing mechanisms for the international community, especially for developing countries[199].

Regarding monetary benefit sharing, neither it takes place in the field of marine genetic resources in ABNJ at the moment. In this regard, a legal obligation to make payments is lacking, as well as an overall framework to manage potential voluntary payments[200]. As in the case of a system of non-monetary benefit sharing, a prospective international instrument should take into consideration a legal basis as well as an institutional framework to collect mandatory or voluntary payments[201].

Again, the Annex of the Nagoya Protocol provides some examples of monetary sharing benefits. However, it must be noted that due to the special features of access to marine genetic resources in ABNJ, some types of monetary benefit-sharing might be more suitable than others[202]:

- Access fees to single samples.
- Up-front payments (i.e., before access and utilization take place)[203].
- Milestone payments (which may vary according to the progress of development of commercial results or products)[204].
- Payment of royalties.
- License fees in case of commercialization.

[199] Greiber, "Options and Approaches for Access and Benefit-sharing" (see footnote 190), pp.19-20.
[200] Ibid.
[201] Arianna Broggiato and others, "Fair and equitable sharing of benefits from the utilization of marine genetic resources in areas beyond national jurisdiction: Bridging the gaps between science and policy", *Marine Policy*, vol. 43, No 1 (November 2014), p.184.
[202] In this sense, it has been highlighted, for example, that "it is often difficult to establish whether a given marine genetic resource was collected within or beyond national jurisdiction. Therefore, the introduction of a mechanism that would allow the disclosure of, inter alia, the geographic coordinates of simple collection locations, would provide grater legal certainty for all those concerned with research and development". In this regard, see Vierros and others, "Emerging and unresolved issues" (see footnote 101), pp.223-224.
[203] Fedder, *Marine Genetic Resources, Access and Benefit Sharing* (see footnote 158), p.69.
[204] Ibid.

- Special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity.
- Research funding.
- Joint ventures and joint ownership of relevant intellectual property rights.

4.1.2. The issue of capacity building and the transfer of technology

Capacity building and the transfer of technology are also considered as non-monetary benefits[205], which are important pieces in the machinery for conservation and sustainable use of marine biodiversity in ABNJ. However, these topics have received less attention in comparison with the other issues included in the 'package' agreed in 2011 by the 'BBNJ Working Group'[206].

In addition, they can be seen as a starting point to achieve a more coordinated approach to the conservation and sustainable use of marine biodiversity in ABNJ. As it has been warned, a limitation in capacity building and transfer of technology hinders States (especially developing States) from benefiting from oceans and their resources as well as from effectively implementing UNCLOS and other relevant international instruments[207]. On this subject, in 2009 the United Nations General Assembly reiterated:

> [T]he essential need for cooperation, including through capacity-building and transfer of marine technology, to ensure that all States, especially developing countries, in particular the least developed countries and small island developing States, as well as coastal African States, are able both to implement the Convention and to benefit from the sustainable development of the oceans and seas, as well as to participate fully in global and regional forums and processes dealing with oceans and law of the sea issues[208].

[205] Drankier and others, "Marine Genetic Resources in Areas beyond National Jurisdiction" (see footnote 183), p.382.
[206] Stephen Hodgson and others, *Towards a Possible International Agreement on Marine Biodiversity in Areas Beyond National Jurisdiction* (Brussels, Policy Department A: Economic and Scientific Policy, European Parliament,2014), p.53.
[207] Tanaka, *The International Law of the Sea* (see footnote 12), p.371.
[208] A/RES/64/71, Preamble, Paragraph 7.

Capacity building is indispensable to ensure the participation of all States in the development of a new regime for the conservation and sustainably use of marine biodiversity in ABNJ. In this sense, strengthening international cooperation is a necessary foundation to foster the scientific and technical capacity of developing countries in order to develop adequate capacity in marine sciences to study and research marine biodiversity in ABNJ[209].

As for transfer of technology, it should also comprise inclusive processes for States to benefit from scientific and technological knowledge on marine biodiversity in ABNJ. Again, international cooperation is also relevant in order to face a series of challenges on this topic, e.g., to overcome scientific and technology barriers because of the unique nature of the environments located in ABNJ (in particular the Area), as well as conducting comprehensive research related to marine biodiversity[210]. It must be highlighted that there is no currently a mechanism of transfer of marine technology at a global level.

The current cooperative schemes on this matter are mainly based on regional cooperation and they are usually fragmented and carried out independently from each other. Therefore, capacity building and transfer of technology programs are limited: so far no global mechanism exists in this regard[211]. In view of this, a future regime for the conservation and sustainable use of marine biodiversity in ABNJ should encourage projects targeted at ABNJ to ensure the gathering of more data and knowledge relevant, as well as a centralized data depository where the collected data on marine biodiversity in ABNJ can be accessed and shared.[212]The Oceanic Biogeographic Information System (OBIS) could serve ass a model for this purpose.

OBIS, under the Intergovernmental Oceanographic Commission (IOC) since 2009, is currently the largest single data repository for biological data for the world's oceans with 1600 datasets

[209] Vierros and others, "Emerging and unresolved issues" (see footnote 101), p.225.
[210] Ibid.
[211] Carole Durussel and Robin Warner, "Technology Transfer and Capacity-building" in *An International Instrument on Conservation and Sustainable Use of Biodiversity in Marine Areas beyond National Jurisdiction: Exploring Different Elements to Consider*, International Union for Conservation of Nature (ed.), p.73. Available from: https://www.iucn.org/about/work/programmes/environmental_law/elp_work/elp_work_issues/elp_work_biodiv/elc_marine_biodiversity/ (accessed 15 November 2015).
[212] Ibid.

provided by nearly 500 institutions in 56 countries[213]. As expressed during one of the 'BBNJ Working Group' intersessional workshops in 2013, OBIS may be an appropriate mechanism for data sharing, which could contribute to the capacity building and the transfer of marine technology[214].

Nevertheless, whether it is desired that this system play an important role in activities carried out in ABNJ, it would need to be optimized, i.e., expanding the data coverage to more areas, centralizing data repository for the results of research in ABNJ, and facilitating access to developing countries. On the latter, it has been stated that the availability of this kind of data is not well advertised outside developed countries[215].

Regarding capacity building, an eventual regime on the conservation and sustainable use of marine biodiversity in ABNJ should be strongly based on international cooperation. It is important to increase the South-South cooperation – which is currently limited – and intensify the North-South cooperation through cooperative links between regional institutions. Cooperative and interregional links between institutions, regional training programs, workshops and partnerships are possible alternatives of collaboration.

As provided by UNCLOS, the development of human resources through training and education of nationals of developing States is important[216]. To this end, some institutions like the International Maritime Organizations (IMO) has established two educational organs: the World Maritime University (1983) and the IMO International Maritime Law Institute (1989). Similarly, capacity building based on trust fund project agreements have proved to be valuable and convenient. The Hamilton Shirley Amerasinghe Memorial Fellowship (1981) and the United Nations – Nippon Foundation Fellowship Programme (2004) are continuing evidence of an effort

[213] Intergovernmental Oceanographic Commission, *Transfer of Marine Technology: Knowledge Sharing and Capacity Development for Sustainable Ocean and Coastal Management* (Paris, IOC Brochure,2015), p.5. OBIS was established by the Census of Marine Life in 1997 and operates through a secretariat based in Ostend (Belgium). In 2009, it was adopted by the Intergovernmental Oceanographic Commission of UNESCO, as one of its activities under its International Oceanographic Data and Information Exchange (IODE) program. See OBIS, "The History of OBIS", 10 August 2011. Available from http://www.iobis.org/about/origins (accessed 15 November 2015).
[214] A/AC.276/6, §128.
[215] Ibid., §122.
[216] See UNCLOS, article 268(d).

to provide advanced education and research opportunities in ocean affairs and law of the sea to developing country professionals.

With these elements in mind, a global grant program to foster science, policy and governance research on marine biodiversity in ABNJ could be established, in a similar manner to the two aforementioned fellowship programs[217]. In doing so, the capacity building projects could be developed within the framework of cooperative links so that the legal regime set up in UNCLOS and other relevant instruments is strengthened through the development of well trained human resources.

Concerning transfer of technology, as noted during the 2013 'BBNJ Working Group', it constitutes the greatest implementation gap in UNCLOS relating marine biodiversity in ABNJ. Thus is required political will to ensure the implementation of the provisions in this regard[218]. Part XV of UNCLOS deals with the development and transfer of technology in a general manner and can be applied to marine resources in general (with the exceptions of articles 273 and 274, which refer specifically to activities in the Area and the role of the ISA). It is also worth mentioning article 144.1, which requires the ISA to promote and encourage the transfer of technology to developing States of such technology and scientific knowledge relating to activities in the Area so that all States Parties benefit therefrom.

Given its wide scope, transfer of marine technology can be realized in several ways. On this point, the "IOC Criteria and Guidelines on the Transfer of Marine Technology (CGTMT)"[219] can provide a discussion basis for the development of mechanisms of transfer of technology in ABNJ. In that sense, marine technology includes, *inter alia*, information on marine sciences, manuals, sampling and methodology equipment, observation facilities and equipment, equipment for *in situ* and laboratory observations, computer and computer software, and expertise, knowledge and analytical methods related to marine scientific research and observation[220].

[217] As suggested in Durussel and Warner, "Technology Transfer and Capacity-building" (see footnote 211), p.74.
[218] A/68/399, §37.
[219] The CGTMT, a non-binding instrument, was adopted in 2003 by the Assembly of the IOC.
[220] IOC, *IOC Criteria and Guidelines on the Transfer of Marine Technology*, §A.2.

In any case, issues related to technological capacity regarding marine biodiversity in ABNJ should also be applied to resources in areas within national jurisdiction since the discrimination between these two areas (based on political and legal criteria) appear artificial from the perspective of scientific cooperation, transfer of technology and capacity building on marine biodiversity[221].

Finally, it should also be considered the establishment of a Clearing House in a similar manner as is provided by the Nagoya Protocol[222]. Given that the transfer of technology is considered a non-monetary benefit, a Clearing House could contribute to solve tensions between developed and developing countries when dealing to ABS of marine genetic resources in ABNJ[223]. It could also provide direct and rapid access to relevant sources of information and scientific and technical expertise in the transfer of marine technology[224]. In this regard, the synergies between UNCLOS and the Nagoya Protocol should be explored in order to foster international cooperation and coordination both at the national and international level[225]. By doing so, the gaps in the implementation of provisions dealing with transfer of technology in ABNJ might be effectively filled.

4.2. Marine Protected Areas (MPAs) and Environmental Impact Assessment (EIA)

4.2.1. The issue of Marine Protected Areas (MPAs)

There is no universally accepted definition of MPAs, although it is understood that they seek to protect marine ecosystems providing varying degrees of protection and levels of use under a variety of management schemes[226].

[221] Salvatore Aricò, "Making Progress with Marine Genetic Resources", in *Routledge Handbook of Ocean Resources and Management*, Hence D. Smith, Juan Luis Suárez de Vivero and Tundi S. Agardy, eds. (London and New York, Routledge, 2015), p.318.
[222] See Nagoya Protocol, article 14.
[223] Durussel and Warner, "Technology Transfer and Capacity-building" (see footnote 211), p.75.
[224] IOC, *IOC Criteria and Guidelines on the Transfer of Marine Technology*, §C.1(a).
[225] Aricò, "Making Progress with Marine Genetic Resources" (see footnote 221), p.318.
[226] Kim Diana Connolly, "Marine Protected Areas", in *Ocean and Coastal Law and Policy*, 2nd edition, Donald C. Baur and others, eds. (Chicago, American Bar Association, 2015), p.593.

UNCLOS does not provide a definition of MPAs but its Part XII contains general obligations to protect and preserve the marine environment[227], through, *inter alia*, appropriate measures to "protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life"[228]. On the other hand, the CBD describes 'protected area' as "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives"[229].

The definition of MPA provided by the International Union for Conservation of Nature (IUCN) is one of the most frequently used:

> Any area of intertidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment[230].

Most attempts to establish MPAs in ABNJ (especially on the high seas) have been undertaken on a sectorial basis, e.g., for the protection of vulnerable ecosystems and for the development of resilience against threats such as shipping, over-fishing and climate change[231]; but there are still no global mechanisms for the establishment of multipurpose marine protected areas.

Likewise, as noted during one of the 'BBNJ Group' meetings, so far there is no multilateral legal basis for the establishment of MPAs in ABNJ[232]. As an essential area-based management tool, it is necessary to confer legitimacy to these initiatives at the multilateral level in order to dispel questioning to their designations in ABNJ.

Currently, the establishment of MPAs in ABNJ has been carried out by regional seas organizations and their coverage is limited to four areas, namely, the Southern Ocean, the North

[227] UNCLOS, article 192.
[228] UNCLOS, article 194.5.
[229] CBD, article 2.
[230] IUCN, Resolution 17.38 of of the General Assembly, §2. b.
[231] Karen N. Scott, "Conservation on the High Seas: Developing the Concept of the High Seas Marine Protected Areas", *The International Journal of Marine and Coastal Law,* vol. 27, No. 4 (2012), p.850.
[232] A/67/95, §22.

East Atlantic, the Mediterranean, and the central Pacific[233]. However, as noted, these attempts have not been entirely satisfactory since they are based on limited participation and voluntary measures[234]. In fact, the MPAs created by regional sea organizations (mainly through RFMOs) suffers from a major flaw: the rules applicable are only binding on the States parties to the regional agreement establishing the MPA. Therefore, third States might be reluctant to observe the regulations and restrictions set out for a certain MPA.

In connection with the latter, the relationship between the establishment of this area-based management tool and the traditional high seas freedoms (basically fishing and navigation) represents a significant challenge for the international community facing the search for a global regime for MPAs in ABNJ. Certainly, potential restrictions on the traditional high seas freedoms in order to protect the marine biodiversity will generate tensions between, on the one hand, the conservation and sustainable use of natural resources, and, on the other hand, the firmly established principle of freedom in such area. Therefore, in building a global framework for MPAs in ABNJ it will be necessary to considerer those activities arising from the high seas freedoms with the purpose of achieving a balance of interests. Overlooking this particular feature will limit and preclude any spatial and integrated ecosystem management in ABNJ[235].

In 2008, the 9th Conference of the Parties (COP9) to the CBD adopted a set of scientific criteria for identifying Ecologically or Biologically Significant Marine Areas (EBSAs)[236] in need of protection in open-ocean waters and deep-sea habitats. These criteria include the following[237]:

- 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

[233] Scott, "Conservation on the High Seas" (see footnote 231), p.854.
[234] Hodgson and others, *Towards a Possible International Agreement* (see footnote 206), p.42.
[235] Scott, "Conservation on the High Seas" (see footnote 231), p.856.
[236] EBSAs are defined as "geographically or oceanographically discrete areas that provide important services to one or more species/populations of an ecosystem or to the ecosystem as a whole, compared to other surrounding areas or areas of similar ecological characteristics". See UNEP/CBD/COP/DEC/IX/20, Annex 2.
[237] For further details, see Ibid., Annex 1.

- Biological Diversity
- Naturalness

In addition, the aforementioned conference provided scientific guidance on the design of representative networks of MPAs, including in ABNJ. Accordingly, MPAs should incorporate five components[238]:

- Ecologically and biologically significant areas.
- Representativity (i.e., areas representing the different biogeographical subdivisions of the global oceans and regional seas that reasonably reflect the full range of ecosystems).
- Connectivity (i.e., recognizing functional linkages).
- Replicated ecological features (i.e., more than one site contains examples of species, habitats and ecological processes in a given biogeographic area).
- Adequate and viable sites.

Pursuant to a request by the 10th Conference of the Parties (COP10) to the CBD, the Executive Secretary has been convening a series of regional expert workshops in order to facilitate the description of EBSAs through application of the above-mentioned scientific criteria. To date, there have been organized regional workshops in the Western South Pacific (2011), Wider Caribbean and Western Mid-Atlantic (2012), Southern Indian Ocean (2012), Eastern Tropical and Temperate Pacific (2012), South-Eastern Atlantic region (2013), North Pacific region (2013), among others.

[238] Ibid., Annex 2.

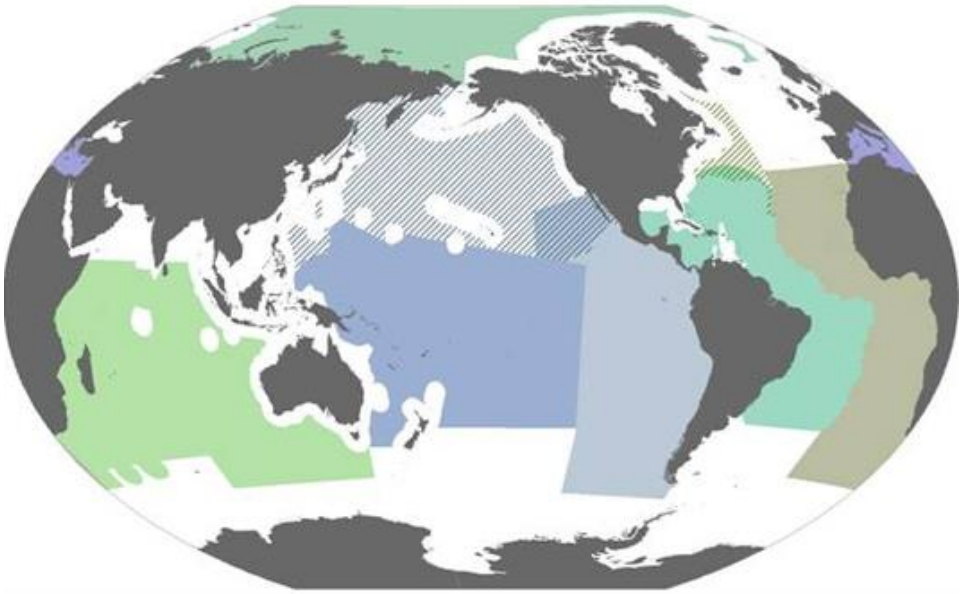

Figure 11. Geographical scope of the regional workshop areas organized by the CBD to facilitate the description of areas meeting EBSA criteria

Source: CBD, "Ecologically or Biologically Significant Marine Areas: Special places in the world's oceans". Available from https://www.cbd.int/ebsa/about

Although not necessarily all the EBSAs identified will become MPAs, the expert information compiled through this CBD process can provide an important basis for decisions regarding future cooperation and management[239]. Nevertheless, as noted previously in this work, the CBD does not have a management role regarding biodiversity in ABNJ, which means that the results derived from this scientific effort have no effective mechanism for a suitable implementation. It, again, reflects the absence of a global framework for the establishment and management of MPAs (in particular) and the conservation and sustainable use of marine biodiversity in ABNJ (in general).

In response to such adversities, a future regime in this regard should consider the establishment of a multilateral and uniform framework providing for a clear legal basis for the designation of

[239] Elisabeth Druel and Kristina Gjerde, "Options and Approaches for Establishing and Managing Marine Protected Areas in Areas Beyond National Jurisdiction", in *An International Instrument on Conservation and Sustainable Use of Biodiversity in Marine Areas beyond National Jurisdiction: Exploring Different Elements to Consider*, International Union for Conservation of Nature (ed.), p.40. Available from: https://www.iucn.org/about/work/programmes/environmental_law/elp_work/elp_work_issues/elp_work_biodiv/elc_marine_biodiversity/ (accessed 21 November 2015).

MPAs in ABNJ[240]. Moreover, on the basis of article 197 of UNCLOS, a future set of rules should ensure the duty to cooperate for the protection and preservation of the marine environment, including the creation, coordination and management of networks of MPAs.

Additionally, since MPAs serve to multiple purposes, it would be necessary that they have clear objectives in order to regulate the activities to be carried out in there (e.g., regulation of shipping, fishing or bioprospecting), as well as provisions to ensure that human activities will not cause severe impact to the marine environment. For this purpose, the application of ocean governance tools, such as the ecosystem-based management, the precautionary approach, the environmental impact assessment and the marine spatial planning, could play a vital role in fulfilling the goal of protecting marine biodiversity in ABNJ[241].

Finally, it would be required to design an institutional framework to ensure an efficient process in managing MPAs in ABNJ. As suggested by some authors, this institutional framework could involve the establishment of a COP to an eventual new agreement under UNCLOS, in a similar way to the COP to the CBD[242]. The COP could be competent to, *inter alia*, examine issues and adopt decisions regarding designated MPAs in ABNJ; enable proper collaboration and cooperative initiatives; evaluate the consistency with the governing principles and objectives of the potential instrument; encourage the development of regional capacity to protect, conserve and sustainably use marine biodiversity in ABNJ[243].

4.2.2. The issue of Environmental Impact Assessment (EIA)

According to the *Goals and Principles of Environmental Impact* Assessment, adopted in 1987 by the United Nations Environment Program (UNEP), EIA means "an examination, analysis and assessment of planned activities with a view to ensuring environmentally sound and sustainable

[240] Scott, "Conservation on the High Seas" (see footnote 231), p.857.
[241] Karen N Scott, "Integrated Oceans Management: A New Frontier in Marine Environmental Protection", in *The Oxford Handbook of the Law of the Sea*, Donald R. Rothwell and others, eds. (Oxford, Oxford University Press, 2015), pp.480-481.
[242] Druel and Gjerde, "Options and Approaches for Establishing and Managing Marine Protected Areas" (see footnote 239), p.46.
[243] Ibid.

development"[244]. In general terms, EIA is "a requirement under general international law" as considered by the ICJ in the *Pulp Mills on the River Uruguay*[245]. In addition, it has been argued that it may limit the margin of discretion of States in their environmental policy-making as well as it may stimulate the application of the precautionary approach[246].

UNCLOS requires an obligation (although not very rigorous) to undertake EIAs, even in ABNJ, as provided in article 206:

> When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments […].

This obligation is also required by the CBD (not so stringent, in the same manner as in UNCLOS) in order to avoid or minimize significant adverse effects on biodiversity through the following measures carried out by each contracting party[247]:

- Introducing appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biodiversity.

- Introducing appropriate arrangements to ensure that the environmental consequences of its programs and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account.

- Promoting notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biodiversity of other States or ABNJ.

[244] UNEP, *Goals and Principles of Environmental Impact Assessment*, 16 January 1987, Preamble.
[245] *Case concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, 20 April 2010, Judgment, §204.
[246] Tanaka, *The International Law of the Sea* (see footnote 12), p.286.
[247] CBD, article 14.1

- Notifying immediately the potentially affected States in the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biodiversity in areas within national jurisdiction of other States or in ABNJ, as well as initiating action to prevent or minimize such danger or damage.

Although many States have implemented the obligation contained in article 206 of UNCLOS regarding their areas under national jurisdiction, there has been very little progress in relation to ABNJ[248]. On the latter, the implementation has been fragmented and uneven. Relatively few sectorial organizations have adopted specific requirements for EIA regarding activities in ABNJ. Such is the case, e.g., of the ISA with respect of the exploratory phase of deep-sea mining in the Area[249]. Similarly, the Antarctic Treaty System requires EIAs for all activities on the Antarctic environment having at least the potential for a minor or transitory impact[250]. Finally, under the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the contracting parties have the obligation "to undertake and publish at regular intervals joint assessments of the quality status of the marine environment and of its development, for the maritime area or for regions or sub-regions thereof"[251], which includes an evaluation of the effectiveness of the measures taken and planned for the protection of the marine environment and the identification of priorities for action[252].

At the moment there is no international agreement which develops in more specific terms the obligation contained in article 206 of UNCLOS and article 14 of the CBD concerning activities carried out in the marine environment in ABNJ. Particularly, there are no comprehensive provisions at the global level on environmental protection responsibilities relating the sustainable use and conservation of marine biodiversity in ABNJ.

The development of a general regime of EIA in ABNJ has been considered by the 'BBNJ Working Group' and the Manila Expert Workshop under the auspices of the CBD (2009). The

[248] Alex G. Oude Elferink, "Environmental Impact Assessment in Areas beyond National Jurisdiction", *The International Journal of Marine and Coastal Law,* vol. 27, No. 2 (2012), pp.449-450.
[249] See UNCLOS, article 145; Agreement relating to the Implementation of Part XI of UNCLOS, Annex, section 1.7; Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, and Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area.
[250] Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), article 8.
[251] OSPAR Convention, article 6. (a).
[252] Ibid, article 6. (b)

first of these has discussed the importance of further developing scientific and technical guidance on the implementation of environmental impact assessments with respect to planned activities in ABNJ, including consideration of the assessment of cumulative impacts and impacts from new and emerging activities (comprising also experimental activities)[253].

The Report of the Manila Expert Workshop analyzed the CBD Voluntary Guidelines on Biodiversity-inclusive EIA[254] and the CBD Draft Guidance on biodiversity-inclusive Strategic Environmental Assessment (SEA)[255]. It emphasized that oceans in ABNJ have a number of differences (ecological, governance and operational) from terrestrial, freshwater and coastal ecosystems. Regarding governance differences, it was noted the coexistence of diverse legal frameworks and institutional frameworks, which involves a number of different international organizations and bodies (regional and global), along with the principle of the exclusive jurisdiction of the flag State. It was also noted the need of international cooperation in order to ensure sustainable use and conservation of marine biodiversity[256].

In addition, the Report highlighted the paucity of data on ecosystems in ABNJ. Accordingly, it was suggested that the application of the precautionary approach in EIA should be even more important in decision-making process, considering that the practice of EIA in ABNJ is "less established, methodologies are less mature, and multiple assessment cultures may converge in the same area"[257].

Among the typical components of an EIA process, it has been argued that screening and scoping are critical and therefore they should receive particular attention[258]. Screening determines whether a particular activity or project will be subject to an EIA process, while scoping defines the issues to be studied and identifies relevant impacts. On the basis of the Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), it has been suggested that

[253] A/66/119, §31; A/67/95, §26.
[254] Contained in UNEP/CBD/COP/8/27/Add.2, Annex I.
[255] Contained in UNEP/CBD/COP/8/27/Add.2, Annex II.

[256] CBD, Report of the Expert Workshop on scientific and technical aspects relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction, UNEP/CBD/EW-EIAMA/2, Annex II, §7.
[257] Ibid., §13.
[258] See Neil Craik, *The International Law of Environmental Impact Assessment: Process, Substance and Integration* (Cambridge, Cambridge University Press, 2008), pp.132-141.

the screening stage applied to activities carried out in ABNJ should include three levels, namely, the preliminary assessment level (for activities with less than a minor or transitory impact), the initial environmental evaluation level (for activities with no more than a minor or transitory impact) and the comprehensive environmental evaluation level (for activities with more than a minor or transitory impact)[259]. All of them could be potentially applied, e.g., in EBSAs and Vulnerable Marine Ecosystems (VMEs)[260].

Once completed the screening, a scoping process will determine the focus, depth and terms of reference for the EIA study. By doing so, scoping would enable the competent authority (hypothetically it could be managed by an international organization) to, *inter alia*, guide further studies on significant issues and alternatives to be assessed; provide an opportunity for stakeholders to have their interests taken into account in the EIA; and ensure that the resulting EIA report is useful to the decision maker and is understandable to the global community[261].

Notification and consultation with affected parties are required as an integral component of EIA process at both the domestic and international level[262]. In the specific case of activities carried out in ABNJ, when information provided as part of an EIA indicates that a certain marine environment is likely to be significantly affected by a proposed activity, the proponent of the planned activity should notify and consult with potentially affected stakeholders (both State and non-States actors) and provide them with relevant information [263]. Consequently, these stakeholders should be provided with an opportunity to comment on the proposed action for consideration by decision makers. In this regard, the inclusion of a non-technical summary of the EIA, understandable to the public in general, would be highly useful[264]. For this purpose, a large and efficient system of notification and dissemination of information among the stakeholders would be required.

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[259]Ibid., p.139.
[260] VMEs involve areas that may be vulnerable to impacts from fishing activities.
[261] CBD, Report of the Expert Workshop (see footnote 256), Annex III, §20.
[262] Craik, *The International Law of Environmental Impact Assessment* (see footnote 258), pp.141-143.
[263] Robin Warner, "Options for Environmental Impact Assessment Elements", in *An International Instrument on Conservation and Sustainable Use of Biodiversity in Marine Areas beyond National Jurisdiction: Exploring Different Elements to Consider*, International Union for Conservation of Nature (ed.), p.67. Available from: https://www.iucn.org/about/work/programmes/environmental_law/elp_work/elp_work_issues/elp_work_biodiv/elc_marine_biodiversity/ (accessed 29 November 2015).
[264] CBD, Report of the Expert Workshop (see footnote 256), Annex III, §33.

Lastly, an EIA regime for activities carried out in ABNJ should contain the obligation of due diligence encompassing a full examination of the potential environmental impacts of a particular project (including the provision of considerations upon the final decision was based) and taking into consideration the interests of the affected parties[265]. Due to the special features of the marine environment in ABNJ, it has been also suggested a strengthened set of criteria related to the permissible levels of impact on marine biodiversity and a higher level of scrutiny over EIAs prepared by the proponents[266].

CONCLUSIONS

This work has briefly discussed some of the maritime interests of Peru both within and beyond national jurisdiction, including the issue of marine biodiversity in ABNJ, which is currently in the focus of numerous debates in the international fora. This work has also emphasized the need for Peru to update its foreign policy to meet the new challenges of ocean affairs and the law of the sea, namely, a Peruvian maritime foreign policy for the 21st century. In this regard, the accession to UNCLOS and the formulation of an integrated national ocean policy should be the first steps towards a comprehensive ocean governance strategy in Peru.

The question of the conservation and sustainable use of marine biodiversity in ABNJ will be in the center of negotiations of the preparatory committee in charge to make recommendations on such topic, which will act under the auspices of the United Nations General Assembly. This process may, in the future, lead to the adoption of an implementing agreement to UNCLOS. The potential development of a legally binding instrument would mean an opportunity to fill the current gaps and provide a coherent and comprehensive regime thereon in accordance with the contemporary concerns of the international community.

Certainly, a megadiverse country such as Peru should pay special attention to the discussions on marine biodiversity in ABNJ. In this respect, Peru should adopt a national position in relation to the set of issues arising from that challenging question. It is tremendously necessary that the

[265] Craik, *The International Law of Environmental Impact Assessment* (see footnote 258), p.151.
[266] Warner, "Options for Environmental Impact Assessment Elements" (see footnote 263), p.70.

Peruvian national agencies have a clear understanding and a common position in relation to how to achieve an efficient conservation and sustainable use of marine biodiversity in ABNJ. International fora provide an invaluable opportunity for Peru to make known and defend its maritime interests. Therefore, an optimal participation in the discussions about the creation of a special regime for the conservation and sustainable use of biodiversity in ABNJ is required. Peru should hold the responsibility to play a more important role in the development of rules for ocean governance.

In connection therewith, this work has sought to contribute to a more comprehensive understanding of the issues around marine biodiversity in ABNJ among the Peruvian government agencies dealing, one way or another, with ocean affairs. Subsequently, it has attempted, in a minimal extent, to contribute to the development of a common national position regarding marine biodiversity in ABNJ. Lastly, this work has been intended to provide some elements to the Peruvian delegation participating in the preparatory committee on the subject, which will start working from 2016. The last two chapters are devoted to the latter purpose.

It is hoped that the concise analysis presented in the previous chapters may serve as a general panorama of the state of the art in what respect to challenges in ocean policy for Peru, in particular the oft-mentioned issue of marine biodiversity in ABNJ. It is uncertain to say to what extent the objectives of this work will be met since it will depend on the utility that recipients find in it.

Definitely, there are many issues that have not been addresses in depth because of the extension and nature of this paper. Since the question of marine biodiversity in ABNJ is ongoing, further research thereof may improve this exploratory research in the light of the maritime interests of Peru. The more it is known about the outline of a possible implementing agreement, the more each of its elements will be better discussed. Similarly, the potential impact of this new agreement on the law of the sea (in general) and UNCLOS (in particular) will be clarified with the passing of time.

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