Lusíada
Repositório das Universidades Lusíada

Universidades Lusíada

Coelho, Manuel Pacheco

The high seas treaty : a critical perspective from the point of view of fisheries sector

http://hdl.handle.net/11067/7460
https://doi.org/10.34628/F33P-Y351

Metadados

Data de Publicação 2023

Resumo March 2023: the United Nations' delegates took a historic decision in defining a new Model of Governance for the High Seas and attacking the problem of "international commons". A new convention was created. The High Seas Treaty, as it was called, is 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. This new convention stands for the i...

Março de 2023: os delegados das Nações Unidas tomaram uma decisão histórica para a gestão dos chamados "bens comuns internacionais", com a definição de um novo modelo de Governança para o Alto Mar. A nova convenção - Tratado do Alto Mar, como foi designada - constitui um instrumento internacional juridicamente vinculativo, ao abrigo da Convenção das Nações Unidas sobre o Direito do Mar (UNCLOS), sobre a conservação e a utilização sustentável da biodiversidade marinha, em áreas para lá das jurisd...

Editor Universidade Lusíada Editora

Palavras Chave Convenção das Nações Unidas sobre o Direito do Mar, 1982, Recursos marinhos - Conservação - Direito e legislação, Direito da pesca

Tipo article

Revisão de Pares yes

Coleções [ULL-FCEE] LEE, n. 35 (2023)

Esta página foi gerada automaticamente em 2026-11-02T03:38:24Z com informação proveniente do Repositório

THE HIGH SEAS TREATY:

A CRITICAL PERSPECTIVE FROM THE POINT OF VIEW OF FISHERIES SECTOR

O TRATADO DO ALTO MAR:

UMA PERSPETIVA CRÍTICA DO PONTO DE VISTA DO SECTOR DAS PESCAS

Manuel Pacheco Coelho
Professor do ISEG (Instituto Superior de Economia e Gestão)
SOCIUS; ISEG/University of Lisbon
coelho@iseg.ulisboa.pt
Orcid: 0000-0003-3913-7824

DOI: https://doi.org/10.34628/F33P-Y351
Data de submissão / Submission date: 07/02/2024
Data de aprovação / Acceptance date: 22/03/2024

Abstract: March 2023: the United Nations' delegates took a historic decision in defining a new Model of Governance for the High Seas and attacking the problem of "international commons". A new convention was created. The High Seas Treaty, as it was called, is 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. This new convention stands for the integration of fundamental issues such as the exploitation of the seabed, marine genetic resources, fisheries, marine protected areas, scientific research and technology transfer. The purpose of this paper is to make a critical appraisal of this agreement, drawing attention to both, the route, and the substance, in a perspective that highlights the point of view of the fisheries sector. The analysis put in evidence the fundamental relationship between Development and Institutions.

Keywords: Governance; High Seas; Biodiversity; Areas beyond national jurisdiction; Fisheries.

Resumo: Março de 2023: os delegados das Nações Unidas tomaram uma decisão histórica para a gestão dos chamados "bens comuns internacionais", com a definição de um novo modelo de Governança para o Alto Mar. A nova convenção - Tratado do Alto Mar, como foi designada - constitui um instrumento internacional juridicamente vinculativo, ao abrigo da Convenção das Nações Unidas sobre o Direito do Mar (UNCLOS), sobre a conservação e a utilização sustentável da biodiversidade marinha, em áreas para lá das jurisdições nacionais. Esta nova convenção pretende integrar questões fundamentais como a exploração dos fundos marinhos, recursos genéticos marinhos, pescas, áreas marinhas protegidas, investigação científica e transferência de tecnologia. O objetivo do artigo é fazer uma avaliação crítica desta convenção, chamando a atenção tanto para o percurso do debate desenvolvido, como para a substância do acordo, numa perspetiva que evidencia o ponto de vista do sector das pescas. A análise coloca em evidência a relação fundamental entre Desenvolvimento e Instituições.

Palavras-Chave: Governança; Alto Mar; Biodiversidade; Áreas para lá das jurisdições nacionais; Pescas.

Introduction

"(…) by working as one, it's a race we can win. Let's all become the champions that the ocean needs. Let's end the ocean emergency and preserve this precious blue gift for our children and grandchildren", those were the words of the Secretary-General of the United Nations, António Guterres, in January 2023, in Cape Verde, at the Ocean Race summit that took place in Mindelo.

After the "oceans' super year", in 2022, with the important UN Ocean Conference in Lisbon, the historic Nairobi's agreement on plastic pollution control and the Montreal biodiversity conference (where countries agreed on a target of 30% marine ecosystems protected, by 2030), according to Guterres, 2023 should be the "year of super action" implying an urgent need for action in four key dimensions: sustainable maritime industries, massive distribution of support to developing countries, victory over climate change, and the development of science, technology and innovation.

This intention has been largely achieved. 2023 will go down in the history of sustainability policy as a key year for the protection of the planet: in March 2023, the United Nations reached a historic agreement for the management of the "international commons". The so-called High Seas Treaty (the name does not contemplate the full scope of the Agreement), also known as the Biodiversity Beyond National Jurisdiction treaty (BBNJ), is a remarkable step in the progress to the Sustainable Development. After a process of lengthy discussion (in fact, this discussion had been going on for about two decades), also affected by the Covid 19 pandemic, it was possible to reach this 2023 agreement. The text was finalized on 4 March and adopted on 19 June. Both states and regional economic integration organizations can become parties to the Treaty (United Nations General Assembly, 2023).

The aim of the article is to make a critical analysis of this document, drawing attention to both, the route and the substance, in a perspective that highlights the role and the critical perspective of the fisheries sector.

1. The Treaty: Why is it so important?

At the beginning of 2015, in New York, the United Nations' delegates took a central decision: the definition of the Governance Model for the High Seas.

It was proposed the creation of a new binding instrument for the management and conservation of biodiversity in areas beyond national jurisdiction. This new convention should include and integrate fundamental issues such as the exploitation of the seabed, marine genetic resources, fisheries, scientific research for the use of common resources, technology transfer to developing countries, etc. This concern followed the Kingston Conference on the future of seabed mineral exploitation and the Global Ocean Commission's petition for a new agreement on the protection of the High Seas, both in 2014. Initially the deadline for reaching a final text was 2018, then postponed to 2020, and finally, as said, 2023 saw the final decision. Why is it so important?

1.1. Oceans, Biodiversity and Sustainable Development

The first fundamental reason has to do with the importance (not always properly recognized) of the Oceans and their special role in the promotion of the desired Sustainable Development.

The oceans occupy 70% of the Earth's surface and provide 99% of the planet's so-called "living space". They are the largest ecosystem on the "blue planet", and an important source of economic activity (fishing, shipping, shipbuilding, ports, offshore oil and gas production, tourism, etc.). Oceans contribute significantly to global GDP. More than 90% of the world's trade is transported by sea.

Three billion people depend on marine and coastal resources. Oceans contribute widely to the food security of populations; fishing is an important source of protein. About 44% of the world's population lives in the coastal zone, up to 150 km from the coast; eight of the 10 most populous cities in the world are located there.

The oceans are central to marine and coastal tourism and recreational and cultural "mare" activities. They form an important basis for unique ways of life and have great intrinsic, social, and political value.

In environmental terms, oceans are extremely relevant, as they are the main regulator of the global climate. The oceans are a major sink of carbon dioxide; phytoplankton in the seas contribute about 50% of the world's oxygen.

The oceans are the largest source of biodiversity (defined as the variability among living organisms, including terrestrial and marine ecosystems and the ecological complexes in which they are part) on the planet. It is estimated that 50–80% of all life on Earth lies beneath the surface of the oceans. The maritime domain provides a rich biodiversity of ecosystems, hosts between 500,000 to 10 million marine species. New ocean species are continually being discovered, particularly on the seafloor. The goods/products provided by marine biodiversity include food (about 100 million tons per year) and natural substances and ingredients for biotechnology and pharmaceuticals. Genetic resources have significant commercial value. Services/functions of the ecosystem include the production and mineralisation of organic matter, carbon storage, storage of pollutants and waste from land, protection against climate change and coastal protection (Narula, 2016).

To this extent, biodiversity conservation is of paramount importance. But there are many stressors on ocean's health, such as overfishing, pollution, acidification, and other unwanted anthropogenic impacts. It is estimated that up to 13% of global fisheries have collapsed due to commercial overexploitation of fish stocks. Coastal areas are threatened and approximately 30–35% of critical marine habitats such as mangroves and coral reefs have been destroyed.

1.2. UNCLOS: High Seas Governance.

The United Nations Convention on the Law of the Sea (UNCLOS), 1982, provides a comprehensive legal regime for the governance and use of the oceans and their resources. But it has limitations.

Areas of the oceans for which the responsibility for management is outside the jurisdiction of nation states include the "High Seas" and the "Area". Approximately 64% of the surface of the oceans and 95% of their volume are in these areas, which gives an idea of the meaning of this discussion.

Beyond the 200-nautical-mile limit of the so-called Economic Exclusive Zones (EEZs) we find the "High Seas" which is considered a part of the global commons: all states enjoy equal rights to it, including freedom of fishing and scientific research. The areas beyond the limits of national jurisdiction include: the water column beyond the EEZs, or beyond the Territorial Sea (12 miles) where no EEZ has been declared, and the seabed beyond the limits of the Continental shelf/platform (the so-called Area).

Parts VII and XI of the Convention[1] provide the legal framework for the High Seas and the Area, respectively. Under the current international law, fishing on the High Seas is open to all countries, and the minerals in the seabed are agreed as "the common heritage of mankind" (concept introduced by Arvid Pardo, in the U.N., in 1967). While no state has the jurisdiction to make laws regarding marine conservation or to limit fishing, regional fishery arrangements have emerged to restrict and regulate the activity into optimal use objectives and determining maximum sustainable yields (MSY). Under the current rules of the game, the authority to punish environmentally irresponsible conduct by ships on the High Seas falls on the flag state of each vessel. This has led to the practice of "flag of convenience", one of the major weaknesses of this governance model (Coelho & Oliveira, 2020)

Seabed resources in the Area are regulated and controlled by the International Seabed Authority (ISA). No state may claim or exercise sovereign rights over any part of the Area or its resources. It is the responsibility of the ISA to adopt the necessary measures to protect and conserve the natural resources of the Area (Long & Chaves, 2015).

[1] As it is usual in several documents of the U.N., Convention refers to UNCLOS, 1982.

To deal with the insufficiencies of this construct, in what relates to biodiversity conservation, another important convention was assigned, the so-called Convention on Biological Diversity (CBD). Proposed in the Earth Summit, in Rio de Janeiro, 1992, CBD is a comprehensive, legally binding, multilateral treaty that covers all ecosystems, species and genetic resources. It is a key document for protection of biodiversity: the CBD lays out principles, scope, mechanisms and functional arrangements. But this convention is primarily land centric; its implementation is based on the legal responsibility and effectiveness of nation states to undertake activities in areas under their national jurisdiction. Also, the CBD does not specifically address the uniqueness of issues related to conservation of marine biodiversity. To overcome these limitations, other important agreements complement this convention, as the Nagoya Protocol on the access to genetic resources and equitable sharing of benefits arising from their use.

2. Fisheries as an "*Inspiration*"

Those are, in a global analysis, the fundamental rules of the game in what relates to biodiversity of marine ecosystems. We must not forget that a multilateral agreement on such a complex question as marine biodiversity beyond national jurisdiction must be balanced between several issues and interests on debate. Assuming that this is a partial view (the agreement will necessarily be global), our perspective highlights the fisheries case. In several UN documents fisheries were seen as an "inspiration". Also, this perspective stresses the centrality of cooperation.

2.1. Fisheries, the Tragedy of the Commons, and the *"unfinished business"* of UNCLOS

Since the seminal work of Gordon (Gordon, 1954), in the 1950s, the central idea of modern Fisheries Economics has been that, under conditions of free access and competition, the market does not lead to socially efficient solutions in the use of resources. The "common property" nature of fish resources and the presence of externalities in the capture process lead to market-equilibrium solutions that involve the overexploitation of resources and the overcapacity of the sector (Gordon, 1954; Scott, 1955; Schaefer, 1957) This is the oft-quoted allegory of the "Tragedy of the Commons" (Hardin, 1968). That means that we have no "invisible hand" to solve our management problems and that put in evidence the exigent role of the sector regulation framework, avoiding situations of free access and their obnoxious effects.

Property rights (their absence or lack of definition) are at the heart of the problem of fisheries management and this problem becomes more complex when fisheries are straddling by nature (Coelho, 1999; Coelho & Lopes, 2002). These difficulties were exacerbated, precisely, by the new Law of the Sea, UNCLOS-1982. Part

V of this Convention brings together the provisions/rules of the game that govern the development of fisheries and has signified, in the global context, a significant change in the capacity for efficient and sustainable management of resources. The creation of the 200-mile regime, with exclusive rights for the coastal state over fishing in a considerable area (the so-called Exclusive Economic Zone) was its most distinctive feature and represented, for many observers, a veritable "promise of abundance" (Munro, 1980).

The general trend towards exclusive rights for the coastal state did not mean, however, the exclusion of forms of free access in international fisheries. The Law of the Sea does not exclude the principle of the "freedom of the seas". As we said, the High Seas, beyond the limits of the EEZs, maintain a special, remaining statute, where the principle of free access is still in force.

One of the most pervasive issues that has emerged as a consequence of the introduction of EEZs is that of shared resource management. Given that fish are endowed with mobility, it was inevitable that coastal countries, after the establishment of EEZs, would find that they were sharing some of these resources with neighboring countries. Many countries also found that some of the stocks crossed the border of the EEZ into the High Seas, where they were subject to the exploitation of the vessels from distant water fishing countries. Some of these stocks moved over great distances, passing successively through the EEZs of several countries and into areas of the High Seas. We can designate the first ones as transboundary resources, the seconds as straddling stocks and the last ones as highly migratory species. One of the issues that remained inconclusive in the Law of the Sea concerns, precisely, these resources. The development of a theory for the management of these cases is still a work in progress, although economists and mathematicians have been seeking, since the late 1970s, an answer to these situations (Munro, 1979). Anyway, the "unfinished business" of the Law of the Sea, i.e. the imprecise definition of property rights in the High Seas, especially in those areas adjacent to the EEZs, and the consequent difficulties in managing shared stocks, would end up being the origin of many discussions and "fish wars" in the nineties (Kaitala & Munro, 1993). The so-called "turbot war", involving Spain and Canada, with important reflex in Portugal and the European Community, in the middle 90s, is a very good example of this kind of fisheries problems (Coelho et al., 2020; Coelho et al., 2011)

2.2. The Literature on Shared Resources. The use of Game Theory on Fisheries Management.

In theoretical terms, the most common analytical proposal to approach the problem has been the one that takes the basic model of Fisheries Economics and combines it with Game Theory (Coelho & Filipe, 2021; Gronbaek et al., 2020). The general conclusion is that in situations of interaction, where the net benefit of one user is dependent on others, non-cooperation leads to results that are much lower

than those that would result from the existence of cooperation. The authors predict that non-cooperation translates into results very similar to those of a single country's unregulated fishery, i.e., the total dissipation of rents. Users would thus be led into a kind of "Prisoner's Dilemma", a social trap that "pushes" both players into "tragedy". It follows that cooperation is the key element for sustainable management (Munro, 1987; Munro, 2003; Clark, 1980; Levhari & Mirman, 1980).

One starts with a basic bioeconomic model of Fisheries Management (Gordon/Schaefer Model). The model includes equations of economic conditions, production and costs; and an equation of biological growth of the species. The objective is to find the solution that maximizes the sum of the net benefits to the society coming from this fishery, along the time, maintaining, at the same time, the stock in healthy/sustainable situation. The fundamental result is that in conditions of non-regulated fishery we are driven to the overexploitation of the resources, that is, into the Tragedy of the Commons.

Then, using Optimal Control Theory, one can introduce the dynamization and find the so-called singular solution that maximizes the sum of actualized net benefits from the fishery.

We may derive a Golden Rule: in simple words, the immediate marginal gain that results from the current increase in catch must equal the present value of future rents lost, due to this present use (Clark & Munro, 1975; Clark, 1990).

Then, introduce two countries and combine the basic Model with the Game Theory (Nash, 1951). The central result, as said, is that *Cooperation* is fundamental. With non-cooperation we are driven to the same solution that we find with one single country with a non-regulated fishery: overexploitation of the resources and total dissipation of rents.

The cooperative commitment favors the most short-sighted co-manager in the immediate future but, in the long run, the preferences of the most conservationist will be considered.

According to Munro (1987), an optimum will be found if the preferences of the one who attributes the highest value to the fishery are dominant. This country should be the one to establish the management program, obviously having to compensate the other members. That´s what one calls the "Compensation Principle".

Many other results come from this literature, always getting a special attention to the important role of institutions (their constitution, rules, entry restrictions, "crime and punishment" provisions, etc.) in the development process.

2.3. The UNFSA (United Nations Fish Stocks Agreement)

Following the Rio Summit, 1992, and the discussions that were designed for the future in that forum, the United Nations took another important step, in 1995, for sustainable use of fish stocks in the High Seas: the Agreement on the Management of Transzonal Resources and Highly Migratory Species (United Nations, 1995; International Institute for Sustainable Development, 1995; Houtte, 2003).

The fundamental objective of this Agreement was to promote a new cooperation formula.

It maintains the free access beyond 200 miles, but guarantees to the Regional Fisheries Organizations (RFMOs)[2] the regulatory power in areas adjacent to the EEZs and gives a new ability for these Organizations to extend their rules to non-members. To the RFMOs the rights are given to establish capture quotas and control the number of boats in operation for a given stock and zone.

The problem of "new entrants", that is, the possibility of a new country entering, as member, in an already constituted Organization, and the rules of participation in the cooperative benefits, has not yet been resolved.

The "crime and punishment"/control problem has not been solved, too. Each member country has the right to inspect the vessel of any other country, however legal action shall be taken by the country of origin of the vessel found to be at fault. This largely circumscribes the potential effect of the inspection.

It is interesting to note that this result represents the balance of two schools of thought that were determinant in the discussions of this agreement: the Miles & Burke school, "close" to the coastal countries interests, that defends the so-called "consistency principle" (coastal states should have "preferential rights" in the areas of High Seas, adjacent to their EEZs); and the "Article 64" school, defending the positions, and the role in the definition of the regulation framework, of the maritime powers and their long-distance fishing fleets (Miles & Burke,1989; Munro, 2003).

Note, also, that, while fisheries researchers draw attention to the limitations of this agreement, in the context of the discussions on the new convention for the protection of biodiversity, the centrality of this 1995 agreement was reaffirmed countless times, and its regulation logic pointed out as "inspiring" for other areas of discussion (United Nations General Assembly, 2015; United Nations General Assembly, 2017 a, b).

3. "Constructing" an Understanding on Biodiversity Protection Beyond National Jurisdiction

Returning to our basic issue; given the presence of several legal and implementation gaps, the United Nations constituted, in 2004, an Ad-hoc Working Group to study the limits of this *construct* and to present recommendations for a new agreement on biodiversity protection beyond national jurisdiction.

This ad-hoc group took several sessions. In the fourth session, in 2011, an agreement was reached on a "Package of Themes" that included marine genetic resources (RGMs) and aspects of access and distribution of benefits; area-based management instruments, including marine protected areas (MPAs); environmen-

[2] For example, the NAFO - Northwest Fisheries Organization (Portugal is a member) regulates the fisheries in the Newfoundland waters, beyond the EEZ of Canada.

tal impact assessment (mandatory); and training-capacity for technology development and technology transfer. These themes were in the center of the discussions in the following sessions of the group and posterior commitments of UN delegates.

The theme of genetic resources, for example, is suggestive, and gives us some indications about interests in presence and alignments of pressure groups.

Anticipating the financial benefits that can be derived from genetic resources, developing countries have called for the biodiversity in these areas to be declared a "common heritage of mankind" and demanded that access to these resources, and the mechanism for benefit-sharing, be based on principles of equity. Note that only 10 countries account so far for 90% of patents associated with RGMs. So, developing countries argued that free access to these resources, as applicable to living resources on the High Seas, goes against the principle of "just and equitable international economic order".

Those arguments were contested by the developed countries. They maintain that the exploitation of marine genetic resources falls within the right to research, which is part of the principle of freedom on the High Seas. States such as Japan, USA and Canada reaffirm the argument that research is an expensive scientific activity, carried out by private companies. Therefore, they should have the first and only right to obtain the monopoly profits derived from patenting and commercializing the technology. Especially because, when the research is successful, the resulting well-being will benefit humanity, reflected in the increase in consumer surplus.

The "pressure groups", in this debate, were the following. The largest is the "Group of 77" (mainly developing countries) and China. They are the ones who argue that the legal regime of RGMs should reflect the common heritage of humanity.

The member states of the European Union (EU) were the first to defend the adoption of a legally binding instrument and were firmly committed to the success of the negotiations. EU advocated that access to and use of marine genetic resources should not be prohibitive.

Europeans argued that living organisms do not fit the Area's definition of resources and are not part of the common heritage of humanity, but they opposed a "first come, first served" approach to the use of biodiversity, claiming it undermines sustainability. They also provided a legal basis for capacity building and technology transfer, including cooperation in scientific research with developing countries.

The High Seas Alliance, made up of 32 NGOs (Non-Governmental Organizations) representing civil society (note the importance of civil society, in accordance with the Agenda 2030) suggested a sue generis regime to govern access to these resources and benefit sharing. They argued that the new instrument should codify normative principles such as the precautionary principle and ecosystem-based management.

Norway defended the view that the new instrument should establish a regime that maintains the balance of interests reflected in the UNCLOS, and Russia argued that the common heritage does not apply to living resources and that there is no legal basis for expanding the mandate of the International Seabed Authority to deal with marine genetic resources.

4. The BBNJ / High Seas Treaty

After the referred step, in early 2015, the process of discussion went on a new phase. In accordance with the UN resolution 72/249, in December 2017, the General Assembly decided to convene an Intergovernmental Conference to adopt the new convention. The first session went on September 2018. The fourth session was postponed because of Covid pandemic. The fifth session, 2022, was suspended in the last day, and finally, as said, the agreement was assigned in Mars of 2023.

According to the Greenpeace, it is "the biggest conservation victory ever". The greatest achievement, in the view of many observers, has to do with the possibility of creating marine protected areas in international waters to achieve the proposed goal of protecting 30% of the oceans by 2030.

The Treaty has 75 articles. The main objective is:

> "to take stewardship of the world´s oceans for present and future generations, care and protect the marine environment and ensure its responsible use, maintain the integrity of undersea ecosystems and conserve marine biological diversity's inherent value" (United Nations General Assembly, 2023).

In terms of substance/content, the treaty develops in 5 essential parts, in accordance with the 2011 package:

(a) Marine Genetic Resources, including the fair distribution of benefits.

The important commercial value of these resources is recognized, although there is doubt about its actual value. Cooperation in the exploitation and sharing of benefits is called for. It was agreed to regulate monetary, but also non-monetary benefits (many of these relating to cooperation in scientific domains, namely in the access to samples and sample collections and to digital sequence information, in accordance with current international practice).

One of the aspects that has created a significant discussion concerns the consideration of "fish" and "fishing activities" in the application of these standards. Despite the efforts of the ones that advocate the consideration of these resources in this dimension (given that fishes are an important component of marine biodiversity, and that fisheries play a significant role in the functioning of marine ecosystems), in the end, the provisions of RGM area do not apply to fisheries.

(b) Area-Based Management Instruments including Marine Protected Areas
Area-based instruments, including MPAs, are critical in protecting biodiversity. Several existing MPAs ensure long-term conservation, but they are few. MPAs are, also, relevant because they can be used in the short term, in situations of environmental crisis.

The process of MPAs establishment, and the institutions involved, are laid down in their broad outlines. The procedure must be approved by consensus or, if this is not possible, with a majority of 3/4 of the votes. The proposal must be based on the best available Science and information and evaluated by a Scientific & Technical Body. The involved stakeholders must be consulted.

(c) Environmental Impact Assessment.

Environmental impact assessment has the potential to predict and prevent human activities that affect marine biodiversity. This part of the treaty is about establishing the legal and institutional framework for the development of these assessment processes (mandatory) in areas beyond national jurisdictions. It also includes provisions for the so-called Strategic Environmental Assessments, which are assessments carried out in a more holistic perspective and focused on the long term. In these cases, the environmental assessment is no longer obligatory but the interested parties are encouraged to do so.

(d) Capacity building and Technology transfer.

This is an essential matter for developing countries. Different types of cooperation are mentioned: sharing of information and research results, development of manuals, guidelines, and frameworks, collaboration in the development of Marine Science, development of institutional capacities in terms of national regulations and their instruments and mechanisms. The Conference of the Parties will be the body that will monitor these cooperation processes.

(e) Institutional Arrangements.

This area is essential and reflects the fundamental lessons of experience on the central place of the Institutions/Development relationship.

The agreement is relatively vague in its general provisions, but it places in institutions and mechanisms a fundamental role in defining the objectives and quantifying the targets, in defining the procedural arrangements necessary for the implementation of the measures, and in the monitoring and inspection processes. The following bodies are created.

The Conference of the Parties (COP) it is in the center of the institutional *building*. It must meet, for the first time, one year after the entry into force of the Treaty and it should adopt the rules of procedure and the financial regulation. It will examine and evaluate the application of the Treaty. It must take decisions and adopt recommendations by consensus or, if a consensus cannot be reached, after all efforts have been exhausted, two-thirds majority voting.

The Scientific and Technical Body shall be composed of members appointed by the parties, and elected by the Conference of the Parties, as experts. The need for multidisciplinary competences should be considered in the nomination and election of members. The Body will provide scientific and technical advice to the Conference of the Parties, monitor and review management tools by area, and submit comments on environmental impact assessments.

The Secretariat is responsible for providing administrative and logistical support to the Conference of the Parties and its subsidiary bodies, which includes tasks such as the organization and maintenance of meetings, as well as the timely dissemination of information on the application of the Treaty.

The Information Exchange Mechanism/Clearing-House Mechanism will act as an open access platform, facilitating the access, provision and dissemination of information. It will promote transparency and facilitate cooperation and will be administered by the Secretariat.

In addition, the treaty refers elsewhere to an access and benefit-sharing committee, a committee on capacity building and transfer of marine technology, a committee on financial resources, the Global Environment Facility trust fund, and an implementation and compliance committee. However, these are not mentioned or explained in the section on institutional arrangements, so it appears that they will be established at a later date and in due course, with reference to the Conference of the Parties.

5. Critical Appraisal. Perspectives for the Future

From the point of view of a Fisheries Economics researcher, the approach to this Treaty suggests the following critical analysis:

In general, the text of the Agreement seems vague, only general principles. The long-awaited "integration" of the issues is missing, and the text ends up focusing on the four areas of the agreed 2011 pack (Tiller et al., 2019). That was a first surprise.

Much of the implementation is yet to be defined at the Conference of the Parties.

Given the already referred problems in the fisheries case, we stress the insufficient attention to monitoring and control issues. Of course, the issue is approached, but in general. The legal procedures to implement decisions and to enforce compliance is still an area to be deepened.

We also note some insufficiency in the definition of the rules on the constitution, and operating rules, of the regional organizations that will participate in the process, namely in the creation of the MPAs. It is interesting to note the good "inspiration" on fisheries experience, on regional approach to attack the problems. But, as we said, we must not forget the problems that are created when there are not clear rules about, for example, who can be member of the organization? what are the rules for a new member entering an already constituted

regional organization? what are the rules to share the benefits and, first, very important, to define the objectives of the policy-program that is intended to develop? (Ardron et al., 2014; Gjerde et al., 2019; Gjerde et al., 2013; De Santo et al., 2019; Brooks et al., 2014).

We must, also, to call the attention to the failure of taking fisheries into account in the provisions relating to genetic resources. Given the importance of fish and fisheries for marine biodiversity, it seems strange. Unless the delegates wanted to maintain the "acquis" in this area and thought that, in a global evaluation of the agreement, it was too "expensive" to go further in the discussion and try to approach the sector criticism about the 1995 agreement, its limits and demands for evolution. In fact, there are little references on fisheries in the text (but, note, also on important matters as plastic pollution or acidification). As we said, the text is very generalist and supported on the four areas that were agreed in the "package of themes".

Financial issues are only introduced. There are references to funds, to financial resources, to committees to create, but there are only vague references to the origins of funding to support the proposed actions, and the rules and mechanisms to mobilize financial resources, and to define, implement, and control the overall strategies, policies and programs. Priorities, eligibility for access, and other utilization rules of financial resources must be established by the Conference of the Parties and the Global Environment Facility, in a near future.

Those are the limits. But there are a lot of interesting positive gains and considerable progress in this treaty. First, it stresses the role of cooperation, as it is proposed in our analysis that combines bioeconomic modelling with Game Theory.

The advocacy for equity solutions and the recognition of the special position and need of support of the developing countries, little island states, etc., is a mark of this agreement that goes on perfect adherence to the desire of the UN secretary António Guterres (as we highlighted in the beginning of this article), and that is in conformity with the development of the Agenda 2030:

> "(…) by 2030, to end poverty and hunger everywhere; to combat inequalities within and between countries; build peaceful, just and inclusive societies; protect human rights and promote gender equality and the empowerment of women and girls; and ensure the lasting protection of the planet and its natural resources. We also resolve to create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of development and national capacities." *Transforming our world: the 2030 Agenda for Sustainable Development*, *UN, 2015*

Other relevant, positive progress stands in the given attention to the institutional framework and the concern with voting rules for decision-making. This is a crucial element for a better practice, as the experience of fisheries has been demonstrating.

We highlight, also, the search for "balance" that is implicit in the text. There are several references to the need of recognizing the "acquired". Some states (as Norway) defended the view that the new instrument should establish a regime that maintains the balance of interests reflected in the UNCLOS. In fact, in the text, one can read that this agreement shall be interpreted and applied in a manner that does not undermine existing relevant legal instruments and frameworks and relevant global, regional, sub-regional and sectoral bodies. The agreement promotes coherence and coordination with those instruments, frameworks and bodies already existent. This is very important because it facilitates compromises and valorizes the practical experience.

Even the "vague" character of the treaty itself can be an advantage, if we look it from another side. The new convention pertains to the group of binding agreements and many observers desired that it was a clearly coercive commitment too. But Game Theory has demonstrated that, in certain situations, this is not a good idea. To be consistent in time, many agreements should be more flexible. The capacity to adapt to new conditions is important, especially when it comes to the environment. Nowadays, environmental crisis arises and "come out of nowhere", demanding a quick response. Flexibility is required. A "vague" agreement, although based on clear principles, but giving the parties the flexibility to adapt the regulations, is, certainly, a good mode of operation. In times of momentary environmental crisis, with rapid emergence and expansion, solutions will depend on the understanding of the Parties.

Finally, we highlight the "inspiration" on fisheries, especially in what relates with the presence of regional organizations in regulation (Rochette et al., 2014).

For the fisheries sector, itself, there are, at least, four issues to be discussed in the future and that constitute important routes for further investigation.

The first one relates to the possibility of the enlargement of the EEZs. Despite some interesting results, the 1995 Fish Stock Agreement continues being the focus of important divergences. Especially in the context of NAFO. Facing the weak results obtained in the recovery of cod stocks, the leaders of the fishermen organizations of Newfoundland have been proposing the enlargement of the EEZ to the limit of the 350 miles, making it to coincide with the limits of the Continental Platform. In fact, the Continental Platform, and its own statute, lost importance in the new Law of the Sea, but didn't disappear. And we note that the pretensions to the 200 miles regime started after, and grew upon, the Platform. So, it is probable that the eventual failure of the system proposed by the 95 agreement, will carry up the attempts of presenting the resolution of the problem of the transzonal stocks with a simple answer: to enlarge EEZs, extension coinciding with the Continental shelf.

The UN recognize that the limit of the 200 miles doesn't make any biological sense. On the contrary, the Continental Platform has an unquestionable geo-morphological existence. It's natural that the coastal states consider it as an extension of their territory and appeal to the management of the resources, not just of the bed, but also of the above adjacent waters. As it is put by Hannesson (1996), the

solution for the problem of High Sea fisheries would be a new extension of EEZ: a logical step in the process that took the establishment of EEZs, recognizing that it was not enough to assure the necessary conservation of the stocks. To extend EEZ for the waters above the Continental Platform would be in accordance with the rules that govern the bed of the platform. These rights belong to the coastal state of whose terrestrial mass the platform is the natural extension.

The second issue relates to the "new entrant" problem". In the fisheries case, there are a lot of practical discussion to be made about new forms of regulation. This imposes a new development in the area of economic analysis and stands for further research, Game Theory still developing a central role. The "new entrant" problem is a special case of these kind of preoccupations. The charter members of a Regional Fisheries Organization (RFMO) are faced with a dilemma. They can attempt to prevent non-members from becoming explicit free riders by encouraging them to apply as new members. But, if the offer is too generous, the existing RFMO will be undermined, and if the prospective new members feel that the proposed shares are not enough, they will return to explicit free riding. The solution of the problem involves the application of a coalition bargaining analysis (Pintassilgo & Lindroos, 2008; Pintassilgo, 2003; Li, 1999). New developments are expected in this area. The possibility of creating a market of "chart member" has to be investigated. The possibility that each member has the right of selling his chart member, creating a market for the rights to access the organization, is a matter of discussion and research because it involves a lot of problems in the division of the benefits from the cooperative use. Rules for new entrance are, in this context, a matter of fundamental investigation.

The third issue can be defined as "time consistency" and refers to the question of knowing what are the conditions that make the commitments more stable for the future. Should the rules be more or less flexible? In a situation of uncertainty of stocks' recovery, what kind of agreement can be more trustable and less dependent of members states' own motivations? What are, for example, the effects of introducing the climate change issues? (Miller & Munro, 2004). So, we are returning to the questions: coercive or non-coercive, binding or non-binding agreements? How can we design the organizations, their structure and rules, to make them more resistant to time passing and to better face the changes?

Finally, the fourth issue: what we call the "Interlopers" issue. This is a different form of looking at the "new entrant". Suppose that a possible new entrant in the fisheries decides not to enter the regional organization and maintain a situation of free rider, exploiting a straddling stock and enjoying the benefits resulting from others' cooperative management in the RFMO. With the present rules of the game, how can the "co-managers" enforce their rules to non-members? Without a real capacity of intervention and enforcement, from detection to conviction, the efforts of cooperation will turn into disillusion and more incentives to get into free riding behavior, even for previous members of RFMOs. Most of the literature on fisheries management implicitly assumes law can be perfectly and

cost-less enforced but such costs and imperfections have to be incorporated into the analysis to show how management and regulatory policies are affected by their presence. One could explore this issue with a formal model of fisheries law enforcement. This type of models should combine standard Economics of Fisheries analysis, with the Theory of "Crime and Punishment" of Becker (Becker, 1968; Sutinen & Andersen, 1985; Coelho et al., 2013). A special attention to the existing literature on compliance seems to be urgent and wise. In practical terms, new rules are demanding. Illegal, Unreported and Unregulated (IUU) fishing is a fundamental flaw of the governance model of High Seas fisheries in which we have been "navigating". Perhaps, a strong fight against "flag of convenience", one of IUU most obnoxious signs, could be our first purpose.

References

Ardron, J., Rayfuse, R., Gjerde, K. & Warner, R. (2014), "The sustainable use and conservation on biodiversity in ABNJ: What can be achieved using existing international agreements?", *Marine Policy*, Vol. 49, pp. 98-108.

Becker, G. (1968), "Crime and Punishment: An Economic Approach", *Journal of Political Economy*, Vol. 76, Nº 2, pp. 169-217.

Brooks, C., Weller, J., Gjerde, K., Sumaila, U., Ardron, J., Ban, N., Freestone, D., Seto, K., Unger, S., Costa, D., Fisher, K., Crowder, L., Halpin, P. & Boustany, A. (2014), "Challenging the "Right to Fish" in a Fast-Changing Ocean", *Stanford Journal of Law, Science, & Policy,* Vol. 33, 3, pp. 289-324.

Clark, C. (1990), *Mathematical Bioeconomics, The Optimal Management of Renewable Resources*, 2nd edition, Wiley-Interscience Publication, John Wiley & Sons, Inc.

Clark, C. (1980), "Restricted Access to Common-Property Fishery Resources: A Game-Theoretic Analysis", in P. Liu (Ed), *Dynamic Optimization and Mathematical Economics*, New York: Plenum Press, pp. 117-132.

Clark, C. & Munro, G. (1975), "The Economics of Fishing and Modern Capital Theory: A Simplified Approach", *Journal of Environmental Economics and Management*, Vol. 2, Nº 2, pp. 92-106.

Coelho, M. (2024), "Governança dos oceanos e proteção da biodiversidade nas áreas para lá das jurisdições nacionais: Perspetiva crítica", Comunicação ao 7º Encontro Anual de Economia Política: Economia Política e Democracia: Reimaginar o Mundo nos 50 anos do 25 de Abril, ISEG, Jan 2024.

Coelho, M., (1999), *A Tragédia dos Comuns Revisitada. A Pesca do Bacalhau na Terra Nova: Consequências do Regime das 200 Milhas*, ISEG/Universidade Técnica de Lisboa.

Coelho, M & Filipe, J., (2021), "Searching for a new Model of Governance in the High Seas: Game Theory applied to International Commons Management", *Mathematics*, 9, 2516.

Coelho, M., Lopes, R. & Pires, A. (2020), "Lessons from the "turbot war": the

future of high seas fisheries", *Aquatic Living Resources*, 33, 6, https://doi.org/10.1051/alr/2020009

Coelho, M. Filipe, J. & Ferreira, M. (2013), "Modelling Enforcement and Compliance in Fisheries: A Survey", *International Journal of Latest Trends in Finance and Economic Sciences,* Vol. 3(2), pp. 464-469.

Coelho, M., Filipe, J. & Ferreira, M., (2011), "The Turbot War Revisited: Game Theory and High Seas Fisheries Management", *Portuguese Journal of Quantitative Methods*, Vol. 2, nº 1, pp. 67-83.

Coelho, M. & Lopes, R. (2002), "Straddling Stocks and the Management of High Sea Fisheries", Annual Conference of the European Association of Fisheries Economists, EAFE / Universidade do Algarve - Faculdade de Economia.

Coelho, M. & Oliveira, M., (2020) Biodiversity Beyond National Jurisdiction: Searching for a new Model of Governance, Communication to the 27Th APDR Congress, Sustainable Management of the Sea for Sustainable Regional Development, University of Azores, Angra do Heroísmo.

De Santo, E., Ásgeirsdóttir, Á., Barros-Platiau, A., Biermann, F., Dryzek, J., Gonçalves, L., Kim, R., Mendenhall, E., Mitchell, R., Nyman, E., Scobie, M., Tiller, R., Webster, D. & Young, O. (2019), "Protecting biodiversity in areas beyond national jurisdiction: An earth system governance perspective", *Earth System Governance*, Vol. 2, April, 100029.

Gjerde, K., Clark, N. & Harden-Davies, R. (2019), "Building a Platform for the Future: the Relationship of the Expected New Agreement for Marine Biodiversity in Areas beyond National Jurisdiction and the UN Convention on the Law of the Sea", *Ocean Yearbook,* 33, 3, pp. 3-44.

Gjerde, K., Currie, D., Wowk, K. & Sack, K. (2013), "Ocean in peril: Reforming the management of global ocean living resources in areas beyond national jurisdiction", *Marine Pollution Bulletin*, http://dx.doi.org/10.1016/j.marpolbul.2013.07.037

Gordon, H. S. (1954), "The Economic Theory of a Common Property Resource: The Fishery", *Journal of Political Economy*, Vol. 62, pp. 124-142.

Gronbaek, L., Lindross, M., Munro, G. & Pintassilgo, P. (2020), *Game Theory and Fisheries Management, Theory and Applications,* Springer Nature Switzerland.

Hannesson, R. (1996), *Fisheries Mismanagement: The case of the North Atlantic Cod*, Fishing News Books, Oxford.

Hardin, G. (1968), "The Tragedy of the Commons", *Science*, Vol. 162, pp. 1243-1247.

Houtte, A. (2003), "Legal Aspects in the Management of Shared Fish Stocks - A Review", in FAO (Ed) *Report of the Norway-FAO Expert Consultation on the Management of Shared Fish Stocks*, Bergen, Norway, FAO, Rome, 2003.

International Institute for Sustainable Development (1995), "A summary of the final session of the Conference on straddling fish stocks and highly migratory stocks", *Earth Negotiations Bulletin*, 1995, Vol. 7, N.54, pp. 1-12.

Kaitala, V. & Munro, R. (1993), "The Management of High Sea Fisheries", *Marine*

Resource Economics, Vol. 8, pp. 313-329.
Levhari, D. & Mirman, L. (1980), "The great fish war: an example using a dynamic Cournot-Nash Solution", *The Bell Journal of Economics*, vol. 11, nº 1, pp. 322-334.
Li, E. (1999), "Cooperative High-Seas Straddling Stock Agreement as a Characteristic Function Game", *Marine Resource Economics*, Vol. 13, pp. 247-258.
Long, R. & Chaves, M. (2015), "Anatomy of a new international instrument for marine biodiversity beyond national jurisdiction. First impressions of the preparatory process", *Environmental Liability - Law, Policy and Practice*, Vol. 6, pp. 213-229.
Miles, E. & Burke, W. (1989), "Pressures on the United Convention on the Law of the Sea of 1982 arising from new fisheries conflicts", *Ocean Development and International Law*, 20, pp. 343-357.
Miller, K. & Munro, G, (2004), "Climate and Cooperation: A new perspective on the management of shared fish stocks", *Marine Resource Economics*, Vol. 19, pp. 367-393.
Munro, G. (2003), "On the management of shared fish stocks", in FAO (Ed) *Report of the Norway- FAO Expert Consultation on the Management of Shared Fish Stocks*, Bergen, Norway, FAO, Rome.
Munro, G. (1990), The Optimal Management of Transboundary Fisheries: Game Theoretic Considerations, *Natural Resource Modelling*, Vol. 4, nº 4, pp. 403-426.
Munro, G. (1987), "The Management of Shared Fisheries Resources under Extended Jurisdiction", *Marine Resource Economics*, Vol. 3, nº 4, pp. 271-296.
Munro, G. (1980), *A promise of abundance: Extended Fisheries Jurisdiction and the Newfoundland Economy*, Minister of Supply and Services, Canada.
Munro, G. (1979), "The optimal management of transboundary renewable resources", *Canadian Journal of Economics*, Vol. 12, nº 3, pp. 355-376.
Nash, J. (1951), "Noncooperative Games", *Annals of Mathematics*, 54, pp. 289-295.
Narula, K., (2016), "Ocean governance: strengthening the legal framework for conservation of marine biological diversity beyond areas of national jurisdiction", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 12(1), pp. 65-78.
Pintassilgo, P. (2003), "A coalition Approach to the Management of High Seas Fisheries in the Presence of Externalities", *Natural Resource Modeling*, Vol. 16, pp. 175-197.
Pintassilgo, P. & Lindroos, M. (2008), "Application of Partition Function Games to the Management of Straddling Fish Stocks", in Dinar, Albiac, & Soriano (Eds.), *Game Theory and Policymaking in Natural Resources and the Environment*, Routledge, London, pp. 65-84.
Rochette, J., Unger, S., Herr, D., Johnson, D., Nakamura, T., Packeiser, T., Proelss, A., Visbeck, M., Wright, A. & Cebrian, D. (2014), "The regional approach to the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction", *Marine Policy*, Vol. 49, pp. 109-117.

Schaefer, M. (1957), "Some Considerations of Population Dynamics and Economics in Relation to the Management of the Commercial Marine Fisheries", *Journal of the Fisheries Research Board of Canada*, Vol. 14, pp. 669-681.

Scott, A. (1955), "The Fishery: The Objectives of Sole Ownership", *Journal of Political Economy*, Vol. 63, pp. 116-124.

Sutinen, J. & Andersen, P. (1985), "The Economics of Fisheries Law Enforcement", *Land Economics*, Vol. 61, pp. 387-397.

Tiller, R., De Santo, E., Mendenhall, E. & Nyman, E. (2019), "The once and future treaty: Towards a new regime for biodiversity in areas beyond national jurisdiction" *Marine Policy,* 99, pp. 239-242.

United Nations, General Assembly (2023), *Draft agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction; A/Conf.232/2023/CRP.2/Rev.1, Distr.: Limited 14 April 2023.*

United Nations General Assembly (2018), *Resolution 72/249, 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*, A/RES/72/249.

United Nations General Assembly (2017a), *Resolution 71/123, Sustainable Fisheries, including through the 1995 Agreement for the implementation of the United Nations Convention of the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments, A/RES/71/123. 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*, A/RES/69/292, 2017.

United Nations General Assembly (2017b), *Report of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the united Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction*, A/AC.287/2017/PC.4/2.

United Nations General Assembly (2015), *Resolution 69/292, 2015.*

United Nations (1995), *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, General Assembly, 6th session, New York, A/ CONF., 164/37, September.