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Legal Framework of Marine Genetic Resources: Filling the Gaps of the United Nation Convention on the Law of the Seas

Marco Jurídico de los Recursos Genéticos Marinos: Llenando los Brechas de la Convención de las Naciones Unidas sobre el Derecho de los Mares

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1 Introduction. 2 Legal analysis of the MGR concept and related concepts. 3 Present-day regulation and main concerns of MGR legal framework. 4 Conclusions. References.

ABSTRACT

Objective: We seek to understand the definition of marine genetic resources and marine biological resources, placing it in the historical context of narratives of international law of the sea. We seek to look into the content of common heritage of mankind towards MGRs. We seek to analyze the international legal framework of extraction and use of MGRs while securing easy access to them in accordance with the concept of common heritage of mankind. We seek to investigate the international legal regulation of biopiracy in legal research. The authors consider the importance of necessity to fulfil the lack of the universal definition of biopiracy in relation to MGRs in International Law of the Sea.

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Methodology: The research uses general scientific and special cognitive techniques wherein legal analysis and synthesis, systemic, formal-legal, comparative-legal, historical-legal and dialectical methods are applied.

Results: We found out that for the first time ever, the legal protection of the intangible MGR heritage belonging to indigenous peoples and local communities is going to be universally fixed by maritime law. The law will also establish a special mechanism to control the concerned parties' access to this knowledge. The traditional knowledge of indigenous peoples falls within the definition of intangible cultural heritage. This fact raises a question about an overlap between the future Agreement and the Convention for the Safeguarding the Intangible Cultural Heritage. Though the sphere that is going to be regulated by the future Agreement is very specific, many of its provisions build upon the previously adopted international legal instruments like the UN Convention on the Law of the Sea, the Convention on Biological Diversity, and the IOC Criteria and Guidelines on the Transfer of Marine Technology. Moreover, the scope of the Agreement might overlap with the scope of other international instruments, which have nothing to do with marine law, marine ecology, and marine biodiversity, e.g. the Convention for the Safeguarding the Intangible Cultural Heritage. All the aforementioned aspects should trigger further studies of the legal framework of marine genetic and biological resources. The authors came to the conclusion to extend the concept of the common heritage of mankind to marine genetic resources and we found out the fact that the lack of international legal regulation of the extraction and use of marine genetic resources while securing facilitated access to them in accordance with the concept of the common heritage of mankind, which may lead to an increase in the commission of acts of biopiracy.

Contributions: Following a review of the content, we raised possible problems, strategies, suggestions and guidelines for the marine genetic resources and biopiracy.The authors conclude that the implication of the principle of the common heritage of mankind to MGRs may further generate conflicts of law because it is impossible to imply this principle to the high seas. On top of it, the simplified access to MGRs together with the lack of protection of intellectual rights to MGRs and genetic information may result in the overexploitation of marine and oceanic resources as well as the spread of biopiracy. We also point out that it is necessary to find a balance between the freedoms of the high seas, the safeguard of MGRs, and the protection of intellectual property rights to genetic information or marine biotechnologies. The researches considered the distinction between the concepts of marine biological and marine genetic resources and revealed the problems of international legal regulation of the use of marine genetic resources. The authors conclude that generalization of the international legal framework for regulating the use of marine genetic resources needs legal improvement. The authors encourage the complement to the international legal regulation of the universal definition of marine genetic resources and biopiracy.

Keywords: marine genetic resources; marine genetic material; marine technologies; biotechnologies; biopiracy; common heritage of mankind; biodiversity; aquaculture;

United Nations Convention on the Law of the Sea; marine scientific research; genetic information.

RESUMEN

El objetivo: Buscamos comprender la definición de recursos genéticos marinos y recursos biológicos marinos, ubicándola en el contexto histórico de las narrativas del derecho internacional del mar. Buscamos analizar el contenido del patrimonio común de la humanidad hacia los RGM. Buscamos analizar el marco legal internacional de extracción y uso de RGM asegurando un fácil acceso a ellos de acuerdo con el concepto de patrimonio común de la humanidad. Buscamos investigar la regulación legal internacional de la biopiratería en la investigación legal. Los autores consideran la importancia de la necesidad de satisfacer la falta de una definición universal de biopiratería en relación con los RGM en el Derecho Internacional del Mar.

La metodología: La investigación utiliza técnicas científicas generales y cognitivas especiales en las que se aplican métodos de análisis y síntesis jurídica, sistémico, formal-legal, comparado-legal, histórico-legal y dialéctico.

Los resultados: Descubrimos que, por primera vez en la historia, la protección legal del patrimonio inmaterial de RGM perteneciente a los pueblos indígenas y las comunidades locales será fijada universalmente por la ley marítima. La ley también establecerá un mecanismo especial para controlar el acceso de las partes interesadas a este conocimiento. El conocimiento tradicional de los pueblos indígenas entra dentro de la definición de patrimonio cultural inmaterial. Este hecho plantea la cuestión de una superposición entre el futuro Acuerdo y la Convención para la Salvaguardia del Patrimonio Cultural Inmaterial. Aunque el ámbito que va a ser regulado por el futuro Acuerdo es muy específico, muchas de sus disposiciones se basan en los instrumentos legales internacionales previamente adoptados como la Convención de las Naciones Unidas sobre el Derecho del Mar, la Convención sobre la Diversidad Biológica y los Criterios de la COI. y Directrices sobre transferencia de tecnología marina. Además, el alcance del Acuerdo podría superponerse con el alcance de otros instrumentos internacionales, que no tienen nada que ver con el derecho marino, la ecología marina y la biodiversidad marina, p. Ej. la Convención para la Salvaguardia del Patrimonio Cultural Inmaterial. Todos los aspectos antes mencionados deberían impulsar nuevos estudios del marco legal de los recursos genéticos y biológicos marinos. Los autores llegaron a la conclusión de extender el concepto de patrimonio común de la humanidad a los recursos genéticos marinos y descubrimos el hecho de que la falta de regulación legal internacional de la extracción y uso de los recursos genéticos marinos asegurando el acceso facilitado a ellos de acuerdo con con el concepto de patrimonio común de la humanidad, lo que puede conducir a un aumento de la comisión de actos de biopiratería.

Los contribuciones: Tras una revisión del contenido, planteamos posibles problemas, estrategias, sugerencias y lineamientos para los recursos genéticos marinos y la biopiratería.Los autores concluyen que la implicación del principio del patrimonio común de la humanidad en los RGM puede generar aún más conflictos de derecho

porque Es imposible trasladar este principio a alta mar. Además, el acceso simplificado a los RGM junto con la falta de protección de los derechos intelectuales de los RGM y la información genética puede resultar en la sobreexplotación de los recursos marinos y oceánicos, así como en la propagación de la biopiratería. También señalamos que es necesario encontrar un equilibrio entre las libertades de alta mar, la salvaguardia de los RGM y la protección de los derechos de propiedad intelectual sobre la información genética o las biotecnologías marinas. Las investigaciones consideraron la distinción entre los conceptos de recursos genéticos marinos y biológicos marinos y revelaron los problemas de la regulación legal internacional del uso de los recursos genéticos marinos. Los autores concluyen que la generalización del marco legal internacional para regular el uso de los recursos genéticos marinos necesita mejoras legales. Los autores fomentan el complemento a la normativa legal internacional de la definición universal de recursos genéticos marinos y biopiratería.

Palabras clave: recursos genéticos marinos; material genético marino; tecnologías marinas; biotecnologías; biopiratería; patrimonio común de la humanidad; biodiversidad; acuicultura; Convención de las Naciones Unidas sobre el Derecho del Mar; investigación científica marina; información genética.

1 INTRODUCTION

Due to the development of high technologies, along with the need to effectively respond to such challenges and threats as famine, disease, and lack of environmentally friendly energy sources, the academic community's interest in marine genetic resources (MGRs) has grown substantially. Currently, MGRs are extensively utilized in the pharmacological industry for the manufacture of medicines, vaccines, and diagnostic tools.[1] MGRs also play an essential role in food security since they are employed in food production, agriculture, and improving aquaculture efficiency.[2] Biological samples used in marine research are applied to a wide variety of scientific fields, e.g. taxonomy, ecology, biogeography, environmental biology, and climate change studies (RABONE *et al.*, 2019). By now, the MGR concept and the regulatory mechanism for the use of MGRs have not been sufficiently explored from the point of international law. There is still no universal international act containing a definition of MGRs. This fact entails a number of legal and non-legal concerns. On top of it, as marine and biological technologies are spreading, there is a problem of the international legal protection of

[1] See, for example, Anisimov and Gulyaeva (2021. p. 184-201). International instruments, regulating access to genetic resources and benefit-sharing (in the context of Article 4 (4) of the Nagoya Protocol, CBD/SBI/3/14. 13 July 2020. p. 9-10. See, UNEP (2005, p. 12), and United Nations. Sustainable Development Goals. Goal 14: Conserve and sustainably use the oceans, seas and marine resources. Available at: https://www.un.org/sustainabledevelopment/oceans/. Accessed on: 9 Aug. 2021.

[2] See specialized international instruments, regulating access to genetic resources and benefit-sharing (in the context of Article 4 (4) of the Nagoya Protocol, CBD/SBI/3/14. 13 July 2020. p. 9-10.

MGRs, e.g. against the so-called biopiracy. Modern international law also lacks a universal definition of biopiracy.

We should also mention the problem of protecting intellectual rights to MGRs and genetic information.

All the aforementioned issues make it necessary to conduct a legal analysis of the MGR concept and legal framework of MGRs in addition to the legal problems associated with the way they are utilized.

2 LEGAL ANALYSIS OF THE MGR CONCEPT AND RELATED CONCEPTS

As we have mentioned, there is no conventional definition of MGRs. Nevertheless, maritime law experts and specialists in environmental protection, fisheries, and other branches of international law are currently working on developing the legal framework for MGRs. Next, we are going to analyze the MGR concept and related concepts, which are about to be approved at the expert level.

Under the revised draft text of an 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 (the Revised Draft), "marine genetic resources" should be understood as "any material of marine plant, animal, microbial or other origin, [found in or] originating from areas beyond national jurisdiction and containing functional units of heredity with actual or potential value of their genetic and biochemical properties."[3] Not all the experts involved in developing the Draft agreed on the aforementioned definition. That is why the Draft contains an alternative definition of MGRs, which reads as follows: "marine genetic material of actual or potential value." [4]

It should be noted that this alternative definition of MGRs is just a quotation of the genetic resources definition given in the Convention on Biological Diversity of 1992 (the Biodiversity Convention). Under Article 2 of the Biodiversity Convention, genetic resources refer to "genetic material of actual or potential value." [5]

It is noteworthy that during the debates on the Revised Draft, the definition of the term "marine genetic material" (MGM) was changed several times. First, it was

[3] Art.1 of the revised draft text of an 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 / Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction Fourth session New York, 23 March–3 April 2020. https://undocs.org/en/a/conf.232/2020/3. Accessed on: 9 Aug. 2021.

[4] Ibid.

[5] Art. 2 of the Convention on Biological Diversity. Available at: https://www.cbd.int/doc/legal/cbd-en.pdf. Accessed on: 9 Aug. 2021.

proposed to phrase it as follows: "any material of marine plant, animal, microbial or other origin containing functional units of heredity [collected from areas beyond national jurisdiction] [; it does not include material made from material, such as derivatives, or information describing material, such as genetic sequence data]." (UNITED NATIONS, 2019, p. 5). [6]

The definition suggests that the future agreement is going to have a territorial application. Since the term "areas beyond national jurisdiction" usually means the high seas and the international seabed area, it is logical to assume that the document will regulate MGM only in the specified maritime zones. Besides, the definition that we are analyzing has a part, which excludes derivatives as well as certain types of information and data from the MGM concept. Consequently, all these elements will be excluded from the scope of the future agreement. Moreover, genetic information and data as well as the corresponding marine and biological technologies might constitute the objects of intellectual rights, which are regulated by the World Intellectual Property Organization (WIPO). In this context, it seems weird that the final definition of MGM in the Revised Draft has been simplified to mirror the definition of "genetic material" in the Biodiversity Convention. The final version does not mention maritime zones or any other exclusion. [7]

It is also necessary to emphasize that the United Nations Convention on the Law of the Sea, which is the major written source of maritime law, does not mention the term "marine genetic resources". Instead, it has the term "living resources"[8] as well as the derived terms like "living resources of the sea"[9] and "living resources of the high seas".[10] However, the Convention does not say what is actually meant by these concepts. Beyond that, there are terms related to various species, e.g. "highly migratory species"[11], "marine mammals"[12], "anadromous stocks"[13], and "catadromous species".[14] These notions are not defined in the Convention either.

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[6] Art. 1 of the draft text of an 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 / Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. The third session, New York, 19-30 August 2019. Available at: https://undocs.org/en/A/CONF.232/2019/6. Accessed on: 9 Aug. 2021.

[7] Art. 2 of the Convention on Biological Diversity. Available at https://www.cbd.int/doc/legal/cbd-en.pdf. Accessed on 09 Aug. 2021.

[8] United Nations Convention on the Law of the Sea. Available at https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf. Accessed on: 9 Aug. 2021.

[9] Ibid, for example, Art. 21.

[10] Ibid, for example, Art. 116-119.

[11] Ibid, Annex I.

[12] Ibid, art. 65.

[13] Ibid, art. 66.

That is why it is extremely necessary to make a clear distinction between marine genetic resources and marine biological resources (MBRs). According to the definitions of MGRs and MGM, it can be stated that "living resources" mentioned in the Convention are likely to be marine biological resources but not genetic ones. Moreover, we have confirmed this conclusion by the examination of the MBR definition fixed in the EU Regulation No 1380/2013. Article 4 of the Regulation defines MBRs as "available and accessible living marine aquatic species, including anadromous and catadromous species during their marine life".[15]

International law still lacks a universally accepted definition of MBRs. But based on the analysis of the Law of the Sea Convention and EU Regulations, it is quite possible to conclude that in a broad sense, biological resources are all living resources, including fish. In a narrow sense, MBRs are fish resources of the seas used for industrial fishing.[16]

3 PRESENT-DAY REGULATION AND MAIN CONCERNS OF MGR LEGAL FRAMEWORK

The question of the extent to which the use of MGRs on the high seas and in the international seabed area is regulated by the Law of the Sea Convention is controversial due to deviations in the interpretation of its provisions about the legal framework of maritime spaces and marine scientific research. It should be noted that the MGRs located in areas beyond the limits of national jurisdiction, i.e. on the high seas and deep-sea areas of the seabed, do not fall within the scope of the Law of the Sea Convention and the Nagoya Protocol.[17] However, the provisions of the two documents apply to a particular country, i.e. to "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." (UNITED NATIONS, 1992, p. 5).[18]

For this reason, there was a need to prepare a universal international legal act that would regulate the relations of States in the field of the use and conservation of

[14] Ibid, art. 67.

[15] Art.4. of Regulation (EU) no 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1380&from=bg. Accessed on: 9 Aug. 2021.

[16] See, for example, Chumychkin (2019).

[17] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity (UNITED NATIONS, 2011).

[18] Art. 4b of the Convention on Biological Diversity.

marine biodiversity. In June 2012, the UN held the Conference on Sustainable Development "The Future We Want" (Rio 2012). Paragraph 162 of its outcome document highlighted the importance of the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction as well as the necessity to develop an international instrument under the Convention on the Law of the Sea.[19] In July 2015, the UN General Assembly decided to develop 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.[20]

The draft text of the Agreement has already undergone several revisions in recent years. The revised draft of the Agreement under the Convention on the Law of the Sea was proposed by the President for consideration at the fourth session of the Conference, which was postponed.

Let us move on to the analysis of the revised draft main provisions, which cover marine biodiversity and MGRs.

The draft of the Agreement consists of the Preamble, 70 Articles divided into XII Parts, and 2 Annexes. The provisions we are interested in are mostly contained in the first two Parts. Part I (General Provisions) has information about the use of terms, the general objective, the relationship between the Agreement and relevant legal instruments together with its general principles and approaches.

For example, Article 2 of the revised draft says that

> the objective of this Agreement is to ensure the long-term conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction through effective implementation of the relevant provisions of the Convention and further international cooperation and coordination (UNITED NATIONS, 2020, p. 6).

Thus, the Agreement does not eliminate or amend the provisions of the Convention on the Law of the Sea but only fills gaps in the international regulation of marine biodiversity conservation and use. Article 4 confirms this conclusion: "Nothing in this Agreement shall prejudice the rights, jurisdiction and duties of States under the Convention. This Agreement shall be interpreted and applied in the context of and in a manner consistent with the Convention." (UNITED NATIONS, 2020, p. 6). Besides,

[19] Paragraph 162 of the Outcome Document of the United Nations Conference "The Future We Want" (UNITED NATIONS, 2012).

[20] Resolution adopted by the General Assembly on 19 June 2015 [without reference to a Main Committee (A/69/L.65 and Add.1)] 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/RES/69/292. Distr.: General 6 July 2015 (UNITED NATIONS, 2015).

Article 4 stipulates that "the rights and jurisdiction of coastal States in all areas under national jurisdiction, including the continental shelf within and beyond 200 nautical miles and the exclusive economic zone, shall be respected in accordance with the Convention." (UNITED NATIONS, 2020, p. 6).

Article 5 of the Agreement gives the list of principles and approaches, which must be applied to marine biodiversity:

> a) The principle of non-regression;
> b) The polluter pays principle, which means "the endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment";
> c) The principle of the common heritage of mankind;
> d) The principle of equity;
> e) The precautionary principle;
> f) An ecosystem approach;
> g) An integrated approach;
> h) An approach that builds ecosystem resilience to the adverse effects of climate change and ocean acidification and restores ecosystem integrity (UNITED NATIONS, 2020, p. 7).

It is interesting to note that in the international law doctrine, genetic resources are considered to be the common heritage of mankind, the collective genetic property of mankind, which is available to everyone.[21] So, the principle of the common heritage of mankind regarding marine diversity has been officially confirmed in Article 5.

Now, let us analyze Part II "Marine Genetic Resources, Including Questions on the Sharing of Benefits". This part of the Agreement also describes the objectives, which are to:

> a) promote the fair and equitable sharing of benefits arising from marine genetic resources of areas beyond national jurisdiction;
> b) build the capacity of developing States Parties, in particular, least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States and developing middle-income countries, to [collect] [access] and utilize marine genetic resources of areas beyond national jurisdiction;
> c) promote the generation of knowledge and technological innovations, including by promoting and facilitating the development and conduct of marine scientific research in areas beyond national jurisdiction, in accordance with the Convention;
> d) promote the development and transfer of marine technology, subject to all legitimate interests, including, inter alia, the rights and duties of holders, suppliers and recipients of marine technology (UNITED NATIONS, 2020, p. 8).

[21] See, for example, Asimakopoulou and Mohammad (2019); Kloppenburg, (1988, p. 1492-2000).

All the specified objectives align with the objectives of another international instrument, i.e. the Criteria and Guidelines on the Transfer of Marine Technology developed by the Intergovernmental Oceanographic Commission (2005).

Of particular interest is Article 8 of the Agreement. Article 8 (2) states that the provisions of this Agreement shall not apply to:

> a) the use of fish and other biological resources as a commodity;
> b) marine genetic resources accessed ex situ or in silico;
> c) derivatives;
> d) marine scientific research (UNITED NATIONS, 2020, p. 8).

It is notable that there are a lot of alternative versions of the provisions. This means that Article 8 has triggered a spirited discussion. Therefore, the final version of the Article might have a completely different list of the provisions.

Article 9 "Activities with respect to marine genetic resources of areas beyond national jurisdiction" (UNITED NATIONS, 2020, p. 9) is one of the most essential components of the revised draft. It provides that "activities with respect to marine genetic resources of areas beyond national jurisdiction may be carried out by all States Parties and their natural or juridical persons under the conditions laid down in this Agreement." (UNITED NATIONS, 2020, p. 9). When "marine genetic resources of areas beyond national jurisdiction are also found in areas within national jurisdiction, activities with respect to those resources shall be conducted with due regard for the rights and legitimate interests of any coastal State under the jurisdiction of which such resources are found." (UNITED NATIONS, 2020, p. 9).

Moreover, Article 9 confirms the principle of the common heritage of mankind regarding MGRs:

> No State shall claim or exercise sovereignty or sovereign rights over marine genetic resources of areas beyond national jurisdiction, nor shall any State or natural or juridical person appropriate any part thereof]. No such claim or exercise of sovereignty or sovereign rights [nor such appropriation] shall be recognized (UNITED NATIONS, 2020, p. 9).

This provision is analogous to Article 137 of the UN Convention on the Law of the Sea. In addition, we believe that the implication of the principle of the common heritage of mankind to MGRs may further generate conflicts of law because it is impossible to imply this principle to the high seas. That is why it is necessary to find a balance between the freedoms of the high seas and the protection of MGRs.

Article 9 (4) says that

> the utilization of marine genetic resources of areas beyond national jurisdiction shall be for the benefit of mankind as a whole, taking into

> consideration the interests and needs of developing States, in particular the least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States and developing middle-income countries (UNITED NATIONS, 2020, p. 9).

It is worth pointing out that the IOC Criteria have a similar provision but without a reference to the coastal African States (INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION, 2005). In our opinion, references of this type are unnecessary and discriminatory because developing countries, geographically disadvantaged States, and small island developing States must enjoy an approximately equal number of rights and preferences, taking into account national circumstances.

Article 9 (5) stipulates that "activities with respect to marine genetic resources of areas beyond national jurisdiction shall be carried out exclusively for peaceful purposes." (UNITED NATIONS, 2020, p. 9). This provision mirrors Article 88 of the Convention on the Law of the Sea under which "the high seas shall be reserved for peaceful purposes." Article 141 of the Convention on the Law of the Sea also provides that "the Area shall be open to use exclusively for peaceful purposes."

Article 10bis of the draft Agreement "Access to traditional knowledge of indigenous peoples and local communities associated with marine genetic resources [collected] [accessed] in areas beyond national jurisdiction" (UNITED NATIONS, 2020, p. 10) is also interesting. It states that

> States Parties shall take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that traditional knowledge associated with marine genetic resources [collected] [accessed] in areas beyond national jurisdiction that is held by indigenous peoples and local communities shall only be accessed with the prior and informed consent or approval and involvement of these indigenous peoples and local communities. The clearing-house mechanism may act as an intermediary to facilitate access to such traditional knowledge. Access to such traditional knowledge shall be on mutually agreed terms (UNITED NATIONS, 2020, p. 10).

Thus, for the first time ever, the legal protection of the intangible MGR heritage belonging to indigenous peoples and local communities is going to be universally fixed by maritime law. The law will also establish a special mechanism to control access to traditional knowledge related to MGRs in areas beyond national jurisdiction. The correlation of this provision with the provisions of the Convention for the Safeguarding the Intangible Cultural Heritage is easy to notice.[22]

Article 11 "Fair and equitable sharing of benefits" in general copies what is fixed in the IOC Criteria with respect to the transfer of marine technology. In particular, it is stated that States Parties, including their nationals, that have [collected] [accessed]

[22]The Convention for the Safeguarding of the Intangible Cultural Heritage (UNITED NATIONS, 2003).

[utilized] marine genetic resources of areas beyond national jurisdiction [shall] [may] share benefits arising thereof [in a fair and equitable manner] with other States Parties, with consideration for the special requirements of developing States Parties. Benefits [shall] [may] include [monetary and] non-monetary benefits. Besides, Article 11 provides for a very detailed way of sharing benefits arising from MGRs. The benefits shall be used:

> a) to contribute to the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction;
> b) to promote scientific research and facilitate [the collection of] [access to] marine genetic resources of areas beyond national jurisdiction;
> c) to build capacity to [collect] [access] and utilize marine genetic resources of areas beyond national jurisdiction;
> d) to create and strengthen the capacity of States Parties to conserve and use sustainably marine biological diversity of areas beyond national jurisdiction, with a focus on small island developing States;
> e) to support the transfer of marine technology;
> f) to assist developing States Parties in attending the meetings of the Conference of the Parties (UNITED NATIONS, 2020, p. 11).

In Article 12 "Intellectual property rights", the experts tried to find a balance between the facilitation of access to MGRs and the protection of patent holders' intellectual property rights. Among other things, Article 12 provides that

> States Parties shall cooperate to ensure that intellectual property rights are supportive of and do not run counter to the objectives of this Agreement [, and that no action is taken in the context of intellectual property rights that would undermine benefit-sharing and the traceability of marine genetic resources of areas beyond national jurisdiction.

Moreover, MGRs utilized in accordance with this Agreement shall not be subject to patents except where such resources are modified by human intervention resulting in a product capable of industrial application.

Some experts think that this approach puts genetic resources in a legal vacuum since they are not protected by property rights and everyone has free access to them. As a result, such free access is a source of international conflicts in this field.[23] We believe that in the future this approach may result in the overexploitation of marine and oceanic resources (both living and non-living) and the spread of so-called biopiracy.[24]

Due to the fact that MGRs are a potential object of intellectual property law, the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional

[23]See, for example, Tolkachenko (2016).

[24]In this context, we understand biopiracy as the practice of patenting know-how related to MGRs and using it for commercial purposes. This know-how is the traditional knowledge of indigenous peoples and local communities used without the permission of their representatives as well as without any appropriate compensation.

Knowledge, and Folklore (IGC) decided to submit draft Provisions/Articles for the Protection of Traditional Knowledge and Traditional Cultural Expressions, and IP & Genetic Resources to the WIPO General Assembly. The Draft International Legal Instrument Relating to Intellectual Property, Genetic Resources, and Traditional Knowledge Associated with Genetic Resources was also passed to the Assembly.

4 CONCLUSIONS

Thus, we have come to the following conclusions:

1 The concepts of "marine genetic resources" and "marine biological resources" are not identical. Having analyzed the international legal instruments, we have found that "living resources" mentioned in the UN Convention on the Law of the Sea refer to marine biological resources but not genetic ones. In a broad sense, biological resources are all living resources, including fish. In a narrow sense, MBRs are fish resources of the seas used for industrial fishing. Marine genetic resources are perceived as "a material", i.e. non-living resources.

2 The implication of the principle of the common heritage of mankind to MGRs may further generate conflicts of law because it is impossible to imply this principle to the high seas. On top of it, the simplified access to MGRs together with the lack of protection of intellectual rights to MGRs and genetic information may result in the overexploitation of marine and oceanic resources as well as the spread of biopiracy. That is why it is necessary to find a balance between the freedoms of the high seas, the safeguard of MGRs, and the protection of intellectual property rights to genetic information or marine biotechnologies.

3 For the first time ever, the legal protection of the intangible MGR heritage belonging to indigenous peoples and local communities is going to be universally fixed by maritime law. The law will also establish a special mechanism to control the concerned parties' access to this knowledge. The traditional knowledge of indigenous peoples falls within the definition of intangible cultural heritage. This fact raises a question about an overlap between the future Agreement and the Convention for the Safeguarding the Intangible Cultural Heritage.

4 Though the sphere that is going to be regulated by the future Agreement is very specific, many of its provisions build upon the previously adopted international legal instruments like the UN Convention on the Law of the Sea, the Convention on Biological Diversity, and the IOC Criteria and Guidelines on the Transfer of Marine Technology. Moreover, the scope of

the Agreement might overlap with the scope of other international instruments, which have nothing to do with marine law, marine ecology, and marine biodiversity, e.g. the Convention for the Safeguarding the Intangible Cultural Heritage. All the aforementioned aspects should trigger further studies of the legal framework of marine genetic and biological resources.

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AN EXPLANATORY ON THE CO-AUTHORSHIP COLLABORATIONS

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