

Construction of *in situ* Access System for Marine Genetic Resources Beyond National Jurisdiction

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Abstract

The international legally binding instrument under the United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (BBNJ agreement) being negotiated, there has been a great controversy over which regime should be followed for *in situ* access to marine genetic resources (MGRs) beyond national jurisdiction. System of free access is not conducive to the tracking of MGRs, and licence system may undermine the innovative capacity of research institutions because of the complexity of the procedures. Since *in situ* access to genetic resources is marine scientific research (MSR), the notification system for marine scientific research could be used to construct a regime for *in situ* access to MGRs beyond national jurisdiction. The adoption of an implied consent system and the use of the International Seabed Authority (ISA) and clearing-house mechanism as an approval body will help to improve the establishment of a system for *in situ* access to MGRs.

Keywords: areas beyond national jurisdiction (ABNJ), marine genetic resources (MGRs), *in situ* access, notification system

1. Introduction

The international legally binding instrument on the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (BBNJ agreement) has entered the stage of negotiations at a text-based intergovernmental meeting, countries have also reached some consensus on several important issues. On the issue of access to marine genetic resources (MGRs) and benefit sharing, it is difficult to reach an agreement because of the lack of legal status of MGRs and the differences among countries in the definition of the concept of genetic resources and so on. Countries are already aware of the potential economic value of the commercialization and patentability of MGRs. There are different ways to exploit MGRs, including genetic materials, compounds, native extracts, etc.

Due to the difficulty of reaching an agreement in the negotiations on the legal status of MGRs, the EU delegation therefore proposed that access to MGRs should be regulated by the relevant provisions of the marine scientific research (MSR) regime already in place in the United Nations Convention on the Law of the Sea (UNCLOS). On the issue of *in situ* access to MGRs, some developing countries require the application of licence, and some developed countries require the application of the free access regime. Therefore, this article will examine the shortcomings of existing proposals on access to MGRs and examine the differences between the UNCLOS regime for MSR and access to MGRs under the current BBNJ agreement, explore the possibility of applying the current regime for MSR to *in situ* access to MGRs. Notably, access to MGRs includes *in situ* access, *ex situ* access and *in silico* access, however, this paper only discusses the regulation and construction of *in situ* access system of MGRs.

2. The Analysis of the Existing *in Situ* Access System

2.1 Licence System

Some developing countries that agree with the principle of the common heritage of mankind believe that access to MGRs should be subject to licence (Jamaica, 2016). Only after the authority has issued a permit or a licence can the relevant vessel enter the areas beyond national jurisdiction (ABNJ) to obtain MGRs. The licence model is used in the Convention on Biological Diversity (CBD), the agreed measures for the protection of Agreed Measures for the Conservation of Antarctic Fauna and Flora and the Protocol on Environmental Protection to the Antarctic Treaty. Article 15 of the CBD provides for access to genetic resources, making it clear that each state has full sovereignty over genetic resources within its territory and that access by other states to genetic resources within a state's territory shall be subject to ratification by the state, this principle is also known as the prior informed consent principle. The principle of prior informed consent set out in the CBD differs from the notification model in that access to natural resources requires the consent of the state concerned, rather than mere registration. Article 3 of Annex 2 to the Protocol on Environmental Protection to the Antarctic Treaty (PEPAT) clearly sets out the licensing system. PEPAT prohibits the acquisition of Antarctic flora and fauna unless a permit is obtained. However, PEPAT does not specify whether access to genetic resources of animals and plants is an access to animals and plants. However, it can be seen from this article that PEPAT adopts a licence model for the protection of Antarctic flora and fauna. But the licence model still has big limitations. There are many problems in the practice of CBD. The first is the complexity of the process, from the search for domestic licence systems, the production of a list of licence materials, applications for licence takes a long time. The second is the difficulty of obtaining a license. In some countries, the conditions for obtaining a license under domestic law are vague, some domestic laws are difficult to find and the process is not transparent. Some researchers even spend a lot of time, energy and money applying for a license, and still can't get permission (David Smith, Harriet Hinz, Joseph Mulema, Philip Weyl & Matthew J. Ryan, 2018).

2.2 The System of Free Access

The majority of countries in favor of freedom of the seas access to MGRs are in favor of free access. The United States, for example, argues that access to MGRs should be unrestricted because they are subject to freedom of the seas regulations (Paper by the United States, 2016). However, this type of access will lead to the monopoly of access to and exploitation of MGRs by developed countries due to the lack of relevant technology in developing countries, the acquisition of intellectual property rights for related products in the process of subsequent commercialization deprives developing countries of their rights, resulting in another form of biopiracy (Rachel Tiller, Elizabeth De Santo, Elizabeth Mendenhall & Elizabeth Nyman, 2019).

2.3 A Notification System

The European Union was also in favor of free access but believed that free access to MGRs should be notified to the clearing house in advance (EU textual proposals on the MGR Part for IGC4, 2020). Such claims are known as notification systems. At present, there is no international treaty that fully adopts the free access system, and the mining activities in the Antarctic Treaty and the UNCLOS have adopted the prior notification system. Article 7 paragraph 5 of the Antarctic Treaty provides that vessels or nationals of contracting parties shall notify all other contracting parties in advance of any expedition to Antarctica. It is understood from this article that all investigations include scientific investigations. Therefore, according to the Antarctic Treaty, the ships of the contracting parties shall notify the other contracting parties of the expedition team, equipment taken to the Antarctic and so on, before they enter the Antarctic for a scientific expedition. The UNCLOS provides that the International Seabed Authority (ISA) shall be responsible for the management of mining and prospecting activities in the Area. The detailed provisions on prospecting and mining are laid down in Annex 3 to the UNCLOS. Article 2(b) states that the ISA shall be notified in writing and the approximate area to be mined by the relevant entity prior to mining. The current notification system provides broad rights and obligations for relevant countries, and the procedural obligations are relatively simple.

3. The Advantages of BBNJ Agreement Applies to the Notification System

3.1 The System of MSR Shall Be Used for Reference

Bioprospecting is the exploration and exploitation of MGRs for commercial purposes. There is no exact definition of bioprospecting. Some scholars think that bioprospecting is for commercial purposes and not for MSR. Some scholars have suggested that bioprospecting could be included in MSR by interpreting MSR in part thirteen of the UNCLOS (Charlotte, 2019). MSR is any scientific research aimed at increasing knowledge about the marine environment (Soons, A., 1982). First, the conduct of MSR is the conduct of scientific research, including physical, chemical, biological, geographic, and other research. Secondly, MSR is the study of the marine environment, including water, seabed, and subsoil. Finally, the purpose of MSR is to increase knowledge about the oceans, that is, all relevant knowledge that occurs in ocean space. Bioprospecting refers to the

exploration and exploitation of marine living resources with social and economic value (United Nations Environment Programme, 2003). Bioprospecting includes not only the initial acquisition of biological resources, but also the subsequent development and commercialization of new products. It follows from this that, since the conduct of marine scientific research is not defined in the convention and, at the stage of the negotiation of the convention, all states consider that MSR includes pure MSR and applied MSR and that bioprospecting is applied MSR. The general principles of MSR, as set out in part thirteen of the UNCLOS, and the fact that MSR cannot be described as the scientific basis for any claim, shall apply (Charlotte Salpin, 2007). For *in situ* access to MGRs, a notification system, rather than a licence and free access system, could be used, drawing on the Exclusive Economic Zone (EEZ) and continental shelf provisions for MSR. On the one hand, bioprospecting belongs to MSR, so it is reasonable for *in situ* acquisition to learn from MSR. On the other hand, although the current notification system for MSR is only applicable to the EEZ and continental shelf, it can serve as a good reference for bioprospecting activities.

3.2 The Notification System Is Flexible

Through the flexible provisions of the notification system, the use of internet technology, can make the notification system simpler and faster. The system of free access did not guarantee the monitoring and follow-up of MGRs, while the licence system was too restrictive and hindered the innovation of genetic resources. The body in charge of bioprospecting shall give notice to the regulatory body at least six months before the research vessel goes to sea. To ensure that bioprospecting activities are not unjustly hindered, the implied consent system can be set up in the light of MSR. If the authority does not reject the applicant or require the applicant to provide the necessary additional information within four months, the authority shall be deemed to have given consent to the applicant to carry out bioprospecting in accordance with the schedule. The applicant body can carry out bioprospecting after six months. During a four-to-six-month period, the applicant may carry out preparatory activities related to the development activities. In the way of notification, you can provide mail, e-mail, database, and other ways. Use of internet technology to reduce procedures and application costs for bioprospecting applications.

4. BBNJ Agreement Notification System Procedures

4.1 The Responsible Institution of the Notification System

The responsible institution of the notification system includes the application institution and the approval institution.

Can the personal or research institution be the body in charge of *in situ* acquisition, or should it be applied for by national authorities? Under the regime for MSR, article 250 provides that plans for MSR shall be issued by states through official channels, generally through diplomatic channels. Therefore, in order not to further add to the complexity of the procedure, it could be stipulated that access to living MGRs should also be undertaken by competent national authorities. An application made by an individual or a relevant institution shall be deemed invalid.

In the case of an approval authority, both ISA and the clearing house should be listed as an approval authority. Countries that need to exploit resources in the Area need to inform ISA of their plans. Article 133 of the UNCLOS states that the resources of the Area refer to all solid, liquid, or gaseous mineral resources located on or below the seabed and do not contain biological genetic resources. Should countries notify ISA if they have access to genetic resources in the Area? According to Article 1 of the convention, "Area" means the seabed and its subsoil in areas beyond national jurisdiction. That is, even in 1970s and 1980s, the negotiators did not address marine living resources or biodiversity at the time of the UNCLOS because of their lack of knowledge of marine species, but the purpose of Article 136 is to make the subsoil and seabed of the Area, as well as the only mineral resources exploited at that time, the common heritage of mankind (Nordquist, M., Nandan, S. & Sohn, L., 1995). The principle of the common heritage of mankind is also taken as a general principle concerning Area activities (Sea-Bed Committee Report, 1969). Therefore, access to MGRs in the area should be subject to the regime of the Area and relevant information should also be submitted to ISA. The clearing house is primarily intended to facilitate and facilitate cooperation so that it can facilitate the implementation of agreements. At the same time, parties are given rapid and direct access to information, technical expertise, and practical experience to facilitate knowledge-sharing, scientific and technological and financial cooperation. The information of inspection before and after the voyage is stored in the information clearing house, which has a good connecting effect to the follow-up system of searching, disclosure and tracing. Therefore, the designation of approval agencies as ISA and information clearing house is conducive to the implementation of the system.

4.2 The Date of the Notification

For reference, the applicant shall submit the relevant application documents six months before departure. Six months is enough time for the relevant agencies to purchase equipment and other preparations. It is

advantageous for the relevant international organizations and competent agencies to give notice before going to sea for examination and approval. The organizations concerned should also be notified after the ships of states have gone to sea to facilitate their monitoring of the ships carrying out the acquisition, if the ships concerned do not comply with the provisions of the plan, or if there are any significant changes to the plan, the examining and approving authority shall have the right to request the relevant vessels to suspend their activities.

4.3 The Content of the Notification

The protection of MGRs requires a system of monitoring and tracing, so that when a country acquires genetic resources *in situ*, it should provide a detailed development plan, it includes the tools and methods used, the name and tonnage of the vessel, the scientific equipment, the date of sailing, the name of the responsible organization, the name of the person in charge, the contact information, etc. It should also provide detailed geographic locations where plans are made for tracking monitoring and source disclosure when patents are acquired.

5. Conclusion

The system of *in situ* access to MGRs in ABNJ has some disputes, such as free access system, license system and notification system. However, the application of the notification system, the establishment of the system of implied consent, the procedure of regulating notification and the organization of notification can simplify the notification system and regulate the access to MGRs, nor will it dampen the innovation drive of research institutions. Access to MGRs falls within the scope of MSR, so the notification system can be modelled on the notification system for MSR on the EEZ and continental shelf, make use of existing international organizations and resources to optimize the notification system and better manage acquisition behavior. However, the implementation of other monitoring systems, *ex situ* access systems, *in silico* access should adopt what system is still worth further study.

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