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Legal Analysis of the Korean Domestic Stakeholders' Position on the Benefit-sharing Modalities of Marine Genetic Resources in ABNJ*

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【Abstract】

The United Nations General Assembly decided to develop an international legally binding instrument (ILBI) under the United Nations Convention on the Law of the Sea regarding the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). Among the various issues discussed, an important part of the negotiations in the BBNJ negotiations concerns the governance of marine genetic resources, including the question of benefit-sharing. As this is one of the issues over which developed and developing countries have been in the sharpest conflict, reaching a consensus over this issue will act as a major determinant of the successful drafting of the new international instrument.

As the ILBI will affect domestic stakeholders in each state, state governments have no choice but to engage in the BBNJ negotiations based on a clear understanding of the positions of all domestic stakeholders. The Korean government has submitted textual proposals, which address the position of itself, for consideration at the last session of the Intergovernmental Conference, but it remains unclear whether the opinions of domestic stakeholders are fully reflected in the proposals.

Therefore, this study attempts to assess the opinions of Korean domestic stakeholders, particularly, on the modality of benefit-sharing of marine genetic resources and intends to suggest the future direction of the relevant discussion. Three rounds of a questionnaire survey are conducted by using the Delphi technique to effectively assess the opinions of domestic stakeholders.

According to the result of the survey, as the position of the domestic stakeholders on the sharing of non-monetary benefits is

unclear, the Korean government seems to maintain its position that non-monetary benefits could be shared but only on a 'voluntary' basis. In terms of the sharing of monetary benefits, on the other hand, domestic stakeholders' opinions converged successfully, as it was found that they do not prefer the sharing of such benefits as a system of monetary obligations may discourage states from developing marine genetic resources and, thus, hinder scientific research. This is apparently in line with the view of the government.

Ⅰ. Introduction

1. Purpose of Research

In recent years, the marine bio-industry has seen a great deal of growth. In 2017, the estimated scale of the global marine biotechnology market was $3.93 billion, and it is considered to have the potential to reach $8.74 billion by 2026.[1] In light of this trend, the use and management of marine genetic resources, which are the basic materials for the marine bio-industry, is emerging as a major concern for the international community.

The international legal regime on genetic resources within national jurisdiction has been formed around the Convention on Biodiversity (CBD) and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, while a legal regime for marine genetic resources in areas beyond national jurisdiction (ABNJ), such as

1) "Global Marine Biotechnology 2017-2026: Marine Derived Enzymes in Cosmetics & Use of Micro Algae and Marine Algae in Bio-field Products Fueling Market Growth," 2019-5 Focus on Catalysts (2019), p.3.

the high seas and seabed, is arguably unclear.[2)]

Thus, the United Nations (UN) General Assembly decided to develop an international legally binding instrument (ILBI) under UN Convention on the Law of the Sea (UNCLOS) regarding the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).[3)] Before commencing an Intergovernmental Conference, a Preparatory Committee was established to make substantive recommendations on the elements of a draft text of the ILBI. The Preparatory Committee held two sessions in 2016 and an additional two in 2017, adopting its final report in July 2017.[4)] Following the preparatory meetings, a total of three sessions of the Intergovernmental Conference were held from September 2018 to August 2019; the fourth session, which is currently scheduled for August 2021.[5)]

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2) United Nations Convention on Biological Diversity, Rio de Janeiro, opened for signature 5 June 1992, 31 ILM 818, in force December 29, 1993 [hereinafter CBD]; 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, opened for signature 29 October 2010, in force 12 October 2014. Marine areas beyond national jurisdiction are characterized by the legal regimes for the high seas and the seabed and ocean floor and subsoil thereof (the Area). United Nations Convention on the Law of the Sea, art. 1.1 (1) & 89, opened for signature, December 10, 1982, 1833 UNTS 3, in force November 16, 1994 [hereinafter UNCLOS].

3) UN General Assembly, Resolution Adopted by the General Assembly on 19 June 2015: 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 (6 July 2015).

4) UN General Assembly, 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 (31 July 2017).

5) The fourth session was originally scheduled for April 2020, but it has been tentatively postponed due to the COVID-19 pandemic. Letter of the President of the intergovernmental conference on an international legally binding instrument under the United Nations

Among the various issues discussed, an important part of the negotiations concerns the governance of marine genetic resources, including the question of benefit-sharing. As this is one of the issues over which developed and developing countries have been in the sharpest conflict, reaching a consensus over this issue at the stage of the intergovernmental conference will act as a major determinant of the successful drafting of the new international instrument.[6)]

As the ILBI will affect domestic stakeholders in each state, state governments have no choice but to engage in the BBNJ negotiations based on a clear understanding of the positions of all domestic stakeholders, including expert groups. The Korean government, one of the countries actively participating in the negotiations related to the development of the ILBI, has submitted textual proposals, which address the position of itself, for consideration at the fourth session of the Intergovernmental Conference, but it remains unclear whether the opinions of domestic stakeholders are fully reflected in the proposals.[7)]

Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (9 March 2020).

6) Fran Humphries & Harriet Harden-Davies, "Practical Policy Solution for the Final Stage of BBNJ Treaty Negotiations," 122 Marine Policy (2020) online 104214, pp.1-7; Gaute Voigt-Hanssen, "Current 'Light' and 'Heavy' Options for Benefit-sharing in the Context of the United Nations Convention on the Law of the Sea," 33 International Journal of Marine and Coastal Law 683 (2018), pp.683-705.

7) Textual Proposals Submitted by Delegations by 20 February 2020, for Consideration at the Fourth Session of the 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 Conference), in Response to the Invitation by the President of the Conference in her Note of 18 November 2019, A/CONF.232/2020/3 [hereinafter Textual Proposals]. The Korean government, companies, and research institutes are also keenly interested in the future of the marine bio-industry using marine genetic resources. The Korean government's interest in the marine bio-industry is evidenced by the number of government-led R&D

Against this background, this study attempts to assess the opinions of Korean marine bio-industry stakeholders on the issue concerning benefit-sharing of marine genetic resources and intends to suggest the future direction of the relevant discussion.

2. Research Scope

Under a draft text prepared by the President of the BBNJ Intergovernmental Conference, the issues concerning marine genetic resources covers scope, access, principles and approaches, benefit-sharing modalities, intellectual property, monitoring, and a clearing-house mechanism.[8] Among them, this

projects related to the marine bio field, as well as the scale of its support for such projects. Between 2004 and 2016, the Korean government's investment in marine bio R&D increased by an annual average rate of 17.3%, rising from 57 invested projects in 2004 to 387 in 2016. During the same period, the project expenses rose by 19.1% per year on average, from KRW 10.637 billion (USD 9.4 million) to KRW 86.891 billion (USD 76.8 million). Duckhee Jang & Soogwan Doh, "Trends in the Korean government support for marine biotechnology R&D investment and its implication (in Korean)," 40(3) Ocean & Polar Res. 177 (2018), p.180. With the government's interest in the marine bio-industry, Korea has seen the growth of its marine bio market. Revenue in 2018 for the nation's marine bio sector totaled KRW 602.9 billion, up 12.3% from KRW 536.9 billion in 2016. What should be noted along with the increased revenue is the rising number of workers in the sector, which has seen much larger growth than revenue. The number of workers in the marine bio field in 2018 was 4,943, an increase of 66.5% from the 2,968 workers in 2016. National Marine Biodiversity Institute of Korea, "A Report on Domestic Marine Bioindustry Based on 2018," November 2019 (in Korean). These figures imply a sharp increase in the number of domestic stakeholders related to marine genetic resources in Korea during the period between the organization of the BBNJ Preparatory Committee in 2016 and the ongoing Intergovernmental Conference. In other words, with the rising number of domestic stakeholders, the Korean government now has more diverse and complicated issues to consider in the BBNJ negotiations.

8) The President of the BBNJ Intergovernmental Conference prepared a draft text, which summarizes the discussions made so far based on the proposals received from the delegations of each state before the fourth meeting. The draft text is still a simple,

study deals with the issue in which different views are highly likely to exist among state governments in the Intergovernmental Conference, namely, the benefit-sharing modalities of marine genetic resources. In particular, some states tend to argue that benefit-sharing should only focus on non-monetary benefits arising from the collection of marine genetic resources such as samples, data, information obtained through prior and post-cruise notification procedures, technology transfer, and capacity-building, whereas the others tend to argue that benefit-sharing should cover both monetary and non-monetary benefits.[9)]

3. Research Method Used for Surveying the Opinions of Domestic Stakeholders

The survey on the opinions of domestic stakeholders has hardly been conducted among Korean scholars in the area of public international law. However, it is not uncommon academic practice outside of Korea.[10)] The expanded participation and roles of

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non-legally binding instrument that only enumerates the opinions of the negotiating countries. The drafted provisions are presented together with multiple alternatives suggested by these states. With regard to the issue of access and benefit-sharing of marine genetic resources, it is dealt with in Part II of the Draft Text, in a total of 8 provisions from Articles 7 to 13, including Article 10bis. UN General Assembly, 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, A/CONF.232/2020/3 (18 November 2019) [hereinafter Draft Text].

9) Article 11 of the Draft Text.

10) Gaebel Christine, Baulcomb Corinne, Johnson David E., Roberts J. Murray, "Recognising Stakeholder Conflict and Encouraging Consensus of 'Science-Based Management' Approaches for Marine Biodiversity Beyond National Jurisdiction (BBNJ)", Frontier Marine Science (Sept. 18, 2020), at <https://doi.org/10.3389/fmars.2020.557546>; Aysegul Sirakay, Klaas De Brucker and Thomas Vanagt, "Designing Regulatory Frameworks for Access to Genetic Resources": A Multi-Stakeholder Multi-Criteria Approach. Frontier Genetices (Dec. 3,

relevant stakeholders, namely the private sectors, were already observed in the Nagoya Protocol negotiations and in other international rule making process.[11] The emergence of private sectors as a norm prescriber is not a new phenomenon. The private sector, especially corporations, have interacted with governments and participated in international venues independently.[12] In addition, as a role of private sectors changes from a rule follower to a rule maker, the ILBI's potential impact on the marine bio-industry of Korea inevitably leads to the domestic stakeholder's participation in the negotiation process. Without an empirical assessment of the domestic stakeholders' position, the government would face difficulties in identifying their needs and interests, which are the primary reasons for negotiations. Furthermore, relevant domestic stakeholders still take a critical role in the process of treaty making. The opinions of stakeholders are normally heard and reviewed at the stage of deciding on the necessity of concluding a treaty by the relevant ministries.[13]

In this regard, three rounds of a questionnaire survey were conducted in this study, using the Delphi technique to effectively converge the opinions of domestic stakeholders regarding marine genetic resources in ABNJ. The Delphi technique is a useful

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2020), at <https://doi.org/10.3389/fgene.2020.549836>; Anja Matwijkiw, Bronik Matwijkiw, "A Stakeholder Approach to International Human Rights. Could the Trend Become a Tragedy?", 84 Revue Internationale De Droit Pénal 405 (2013), pp.405-432, at <https://www.cairn.info/revue-internationale-de-droit-penal-2013-3-page-405.htm>.

11) Amadine Orsini, "The Role of Non-state Actors in the Nagoya Protocol Negotiations" in Sebastian Oberthur & G. Kristin Rosendal, Global Governance of Genetic Resources: Access and Benefit Sharing After the Nagoya Protocol (Routledge, 2014).

12) Steven R. Ratner, "Business" in Daniel Bodansky, Jutta Brunnee, Ellen Hey, The Oxford Handbook of International Environmental Law (Oxford, 2007).

13) See https://www.mofa.go.kr/eng/wpge/m_5439/contents.do#part1 (Last visited in Sept. 24, 2021).

approach for solving problems by deriving group consensus from a panel of experts through a process of repeated feedback.[14] A Delphi approach is very effective when it is necessary to converge the opinions of an expert group with specialized knowledge in a specific field, rather than a large number of unspecified ordinary people.[15] As such, the selection of the survey respondents composed of experts in the field concerned is one of the most important elements in a Delphi approach.

There is no clear guideline or methodology for the selection of survey respondents, but it usually depends on the recommendations of experts in the field, authors of publications related to the topic, and the chain of contacts of the researcher s.[16] For this study, a panel of experts consisting mainly of those engaged in profit-making businesses or research activities related to marine genetic resources was formed by using all the channels mentioned above. Those who belong to or who have previously belonged to the Korean delegation for the BBNJ negotiations including the Intergovernmental Conference were excluded from the selection, as they may be the proponents of the current government policy and thus reduce the objectivity of the survey results.

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14) John F. Preble, "Public Sector Use of the Delphi Technique," 23(1) Technological Forecasting & Social Change 75 (1983), p.75; Norman Dalkey & Olaf Helmer, "An Experimental Application of the Delphi Method to the Use of Experts," 9(3) Management Science 458 (1963), p.458.

15) Hugh P. McKenna, "The Delphi technique: A Worthwhile Approach for Nursing?," 19(6) Journal of Advanced Nursing 1221 (1994), p.1221; Juri Pill, "The Delphi Method: Substance, Context, A Critique and An Annotated Bibliography," 5(1) Socio-Economic Planning Sciences 57 (1971), pp.58-59.

16) Adriano Bernardo Renzi & Sydney Freitas, "The Delphi Method for Future Scenarios Construction," 3 Procedia Manufacturing 5785 (2015), p.5786. See also Felicity Hasson, Sinead Keeney & Hugh Mckenna, "Research Guidelines for the Delphi Survey Technique," 32(4) Journal of Advanced Nursing 1008 (2000), pp.1010-1011.

The number of respondents appropriate for a Delphi approach has not been determined academically but varies depending on the scope of the problem dealt with and the available resources.[17] This study analyzed data from 28 respondents. The survey targeted experts engaged in various tasks including researchers at national and public research institutes (10 persons, 35.7%), middle-grade managers at private companies (7 persons, 25.0%), researchers at private research institutes (3 persons, 10.7%), university professors (6 persons, 21.4%), experts at non-governmental organizations (1 person, 3.6%), and one other person (3.6%).[18] In terms of years of experience, the largest cohort of the expert group had more than 10 years but less than 15 (8 persons, 28.6%); this was followed by the group with more than 15 years but less than 20 years (6 persons, 21.4%); and then more than 5 years but less than 10 years (5 persons, 17.9%). Average years working in this field was about 15 years and 9 months, which indicates that the respondents who participated in this study have a sufficient level of expertise.

Questionnaires were distributed three times in total on August 25, September 21, and October 22, 2020. For a Delphi approach, it is recommended to distribute questionnaires two to four times, with open-ended questions used in the first round. In this study, considering that the research topic is an issue related to the formulation of an international instrument, the first round of the survey consisted of closed-ended questions based on the debates

17) Catherine Powell, "The Delphi Technique: Myths and Realities," 41(4) Journal of Advanced Nursing 376 (2003), p. 378; Arlene Fink, Jacqueline Kosecoff, Mark R. Chassin & Robert H. Brook, "Consensus Methods: Characteristics and Guidelines for Use," RAND Corporation (California, 1991), p.3.

18) The 'one other person' is from the Korea Overseas Fisheries Association established by the Ocean Industry Development Act of 2008.

made and raised between countries or experts so far and organized by the researcher. Open-ended questions were added to each category to obtain respondents' views and perceptions. For the second and third rounds of the survey, the questionnaires were revised or the composition of the questions was changed based on the responses in the first round.

Looking at the number of respondents who participated in the three rounds of the survey, 30 participated in the first round, 31 in the second round, and 31 in the third round. The number of respondents who provided answers in all three rounds was 28. As continuity in respondents is considered the most important factor when conducting a survey based on the Delphi technique, this study collected and evaluated only the responses of the 28 experts who participated in all three surveys. The results of the survey were analyzed without classifying the respondents by occupation group, for the following reasons: first, it was difficult to determine the population because the survey was conducted on a panel of experts; second, there was no distinctive attribute among occupation groups; and third, the total number of respondents was not sufficient for such classification.

II. Position of Domestic Stakeholders on the Benefit-sharing Modalities of Marine Genetic Resources

As mentioned earlier, a questionnaire survey was conducted to examine the opinions of domestic stakeholders on whether to regard non-monetary benefits such as samples and information on marine genetic resources obtained through prior and post-cruise notification procedures, technology transfer, and capacity-building,

and whether to regard monetary benefits as subject to the sharing obligations. The results of the survey are as follows.

1. Position on the Sharing of Non-monetary Benefits

The respondents were surveyed in three rounds on the necessity to share non-monetary benefits, and asked to rate the degree to which they agreed with the statement "All non-monetary benefits such as information on marine genetic resources obtained during marine scientific research activities, technology transfer, and capacity-building should be shared."

As the survey proceeded from the first to third rounds, the rate of neutral responses increased, and the difference between the negative and positive response rates was only 10.7%. These results show that the sharing of non-monetary benefits is the issue on which domestic stakeholders disagree with each other most strongly. In other words, domestic stakeholders have not yet reached a consensus on this issue, and, their opinions did not successfully converge through this survey.

<Table 1> Responses on the Sharing of Non-monetary Benefits

(Unit: %)

Survey item	Round	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Negative	Neutral	Positive
Sharing of non-monetary benefits	1st	3.6	32.1	25.0	35.7	3.6	35.7	25.0	39.3
	2nd	3.6	35.7	17.9	39.3	3.6	39.3	17.9	42.9
	3rd	3.6	35.7	32.1	25.0	3.6	39.3	32.1	28.6

2. Position on the Sharing of Monetary Benefits

The respondents were also asked to express their positions on the sharing of monetary benefits. In all three rounds of the survey, respondents were presented with the following statement: "Marine genetic resources gain a monetary (economic) value only when a product using them is developed after a certain period of research. These monetary values must be shared."

In all three rounds, neutral responses accounted for a significant proportion. In terms of positive and negative responses, the proportion of negative responses was higher than that of positive responses, and the proportion of positive responses decreased from 21.4% to 14.3% as the survey was repeated. Based on the results, it is deemed that domestic stakeholders are not positive regarding the sharing of monetary benefits.

Overall, it is considered that domestic stakeholders' opinions converged more successfully compared to the results of the survey on the sharing of non-monetary benefits, as it was found that they do not prefer the sharing of monetary benefits.[19]

<Table 2> Responses on the Sharing of Monetary Benefits

(Unit: %)

Survey item	Round	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Negative	Neutral	Positive
Sharing of monetary benefits	1st	10.7	25.0	42.9	21.4	0.0	35.7	42.9	21.4
	2nd	14.3	35.7	39.3	10.7	0.0	50.0	39.3	10.7
	3rd	14.3	25.0	46.4	14.3	0.0	39.3	46.4	14.3

19) Interestingly, however, it is also important to note that the opinions of these respondents did not completely converge on a negative reaction to the sharing of monetary benefits, since neutral responses accounted for a significant proportion.

3. Analysis

In its textual proposals, the Korean government suggested the sharing of non-monetary benefits on a voluntary basis. However, it denied the sharing of monetary benefits. As to non-monetary benefits, the Korean government suggested that access to samples and sample collections, sharing of information, such as pre-cruise or pre-research information, post-cruise or post-research notification, transfer of technology and capacity-building may be shared after collection of marine genetic resources in ABNJ. It also suggested that samples, data and related information may be made publicly available through a clearing-house mechanism.[20] In terms of its purpose, the government suggested that such benefits should be used to build state capacity, and to promote scientific research in conserving and utilizing marine genetic resources in ABNJ.[21] The position of the Korean government generally concurs with other developed states such as the United States and Japa n.[22] They seem to desire any benefit-sharing regulation to be light and easy.

Recalling the resolution adopted by the UN General Assembly, the benefit-sharing mechanism under the ILBI "should be fully consistent with the provisions of the [UNCLOS]."[23] The preamble

20) The 'clearing-house' mechanism was established by the CBD Secretariat in 1995 in order to promote and facilitate technical and scientific cooperation, develop a global mechanism for exchanging and integrating information on biodiversity, and develop a human and technological network. See CBD art. 18.3.

21) Textual Proposals, pp.94-95.

22) For the position of the United States, see Textual Proposals, pp.96-98.

23) UN General Assembly, 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 (19 January 2018), para.6.

of the UNCLOS could serve as a general guide for the benefit sharing of marine genetic resources between states, recognizing the desirability of establishing a legal order for the seas which will promote the 'equitable' and 'efficient' utilization of their resources. As provided for in Part XIII of the UNCLOS, the benefit-sharing mechanism under the ILBI should also foster scientific research.[24] In addition, apart from the provisions of the UNCLOS, it should also contribute to conservation and sustainable use of biodiversity as stipulated in the Preamble of the Draft Text. Indeed, these are the important approaches in designing the benefit-sharing mechanism under the ILBI.[25]

It is not the question of whether the benefit sharing of marine genetic resources should be included in the ILBI. Rather, the focus of the discussion at the Intergovernmental Conference is on the modality of benefit sharing. As mentioned earlier, some states tend to argue that benefit-sharing should only focus on non-monetary benefits, whereas the others tend to argue that benefit-sharing should cover both monetary and non-monetary benefits.

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24) Many delegations seem to agree that the ILBI should not hinder scientific research. 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, Chair's overview of the third session of the Preparatory Committee, p.5, at <http://www.un.org/depts/los/biodiversity/prepcom_files/Chair_Overview.pdf> (searched date: 31 May 2021). Marine scientific research is expressly listed as one of the freedoms on the high seas that is to be exercised with due regard for the rights and interests of other states. Article 87.1 of the UNCLOS. See also the right to conduct marine scientific research in the Area under Article 256 and in the water column beyond the exclusive economic zone under Article 257 of the UNCLOS.

25) At present, the Draft Text imports the CBD concepts of 'fair' and 'equitable' into the benefit sharing mechanism, but the terms are yet defined, thereby leaving them to be negotiated between the state parties.

States most strongly arguing that benefit-sharing should cover both monetary and non-monetary benefits are the Group of 77 and China. They have stated in their submissions as follows:

"The non-monetary benefit should comprise of access to all forms of resources, data and related knowledge, transfer of technology and capacity building as well as facilitation of marine scientific research on [marine genetic resources] ...

[Marine genetic resources] can bring about monetary benefits and, consequently, the Group of 77 and China are open to discuss the different modalities of monetary benefits which may include, but would not be limited to those mentioned in the Annex of the Nagoya Protocol as well as the conditions triggering the monetary benefits."[26)]

On the other hand, states arguing that benefit-sharing should only cover non-monetary benefits are, for instance, the European Union and its member states. They have argued in their submissions as follows:

"[W]hile [mineral resources] have a monetary value already at the exploration phase, marine genetic resources possess only potential value. A lengthy (between at least 10 to 15 years) and costly research and development phase is usually needed before an actual product is put on the market. Moreover, in a vast majority of cases research on MGRs will not generate a product

26) Group of 77 and China's Written Submission, 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 (5 December 2016), p.2.

or any financial benefit. ... For these reasons the EU and its Member States are of the opinion that discussions relating to this issue should primarily concentrate on non-monetary benefits."[27]

Interestingly, however, based upon the result of the survey mention above, Korean domestic stakeholders have not yet reached a consensus on the sharing of non-monetary benefits under the ILBI. Absent clear position of the domestic stakeholders, the Korean government seems to maintain its position that non-monetary benefits could be shared but only on a 'voluntary' basis.[28] Such a proposal is apparently in line with the marine scientific research regime under the UNCLOS which provides a legal basis for establishing non-monetary benefit sharing obligations, but it is clearly in a less stringent form than the UNCLOS as the sharing is not obligatory.[29]

According to Article 244.1 of the UNCLOS, states that carry out activities involving access to marine genetic resources are under obligation to disseminate information on the proposed activities and their objectives through appropriate channels. Furthermore, according to Article 244.2 of the UNCLOS, states are obliged to share with other states, especially to developing states, scientific data, information, and research results concerning marine scientific

27) Written Submission of the EU and Its Member States, Development of an International Legally Binding Instrument under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Process) (22 February 2017), p.3.

28) Textual Proposals, pp.94-95.

29) Zhen Sun, "Experts Meetings on Biodiversity beyond National Jurisdiction," 4(2) Asia-Pacific Journal of Ocean Law and Policy 300 (2019), p.303; Arianna Broggiato, Sophie Arnaud-Haond, Claudio Chiarolla & Thomas Greiber, "Fair and Equitable Sharing of Benefits from the Utilization of Marine Genetic Resources in Areas beyond National Jurisdiction: Bridging the Gaps between Science and Policy," 49 Marine Policy 176 (2014), p.180.

research, and provide adequate education and training of technical and scientific personnel in order to strengthen the research capabilities of developing states. In short, open access and capacity building including transfer of technology address two approaches for sharing non-monetary benefits associated with utilization of marine genetic resources.[30]

Regarding open access, establishing a clearing house mechanism would be an effective and practical way to share non-monetary benefits as well as to preserve the marine environment.[31] The Ocean Biogeographic Information System, for example, is already existing clearing house platform that provides open access data and information on marine biodiversity.[32] A clearing house mechanism is beneficial for the following reasons. First, it would work as data repositories hosting and sharing information and data regarding BBNJ, and, thus, marine genetic resources in ABNJ would become increasingly open and accessible.[33] This would attract a great number of states and relevant stakeholders in engaging research and development associated with marine genetic resources in ABNJ.[34] It also has the potential to reduce the

30) Arianna Broggiato, Thomas Vanagt, Laura. E. Lallier, Marcel Jaspars, Geoff Burton & Dominic Muyldermans, "Mare Geneticum: Balancing Governance of Marine Genetic Resources in International Waters," 33 International Journal of Marine and Coastal Law 3 (2018), pp.8-10.

31) Group of 77 and China's Written Submission, op. cit., p.2. The EU does not literally suggest a clearing house mechanism, but suggests the establishment of a common platform for transferring information and technologies as a means of benefit sharing. Written Submission of the EU and Its Member States, op. cit., p.4.

32) For an official website of the Ocean Biogeographic Information System, see <https://obis.org> (searched date: 31 May 2021).

33) Arianna Broggiato, Thomas Vanagt, Laura. E. Lallier, Marcel Jaspars, Geoff Burton & Dominic Muyldermans, op cit., pp.24-25.

34) Jane Eva Collins, Harriet Harden Davies, Marcel Jaspars, Torsten Thiele, Thomas Vanagt & Isabelle Huys, "Inclusive Innovation: Enhancing Global Participation in and Benefit

research gap between developed and developing states as relevant information and data are readily accessible to the latter which normally have poor research capabilities.[35] Second, since sampling activities have been recognized as one of the main causes for environmental harm and reduction in biodiversity, a clearing house mechanism would be helpful for preserving the marine environment in that such sharing of information and data would avoid duplicated visits and access to marine genetic resources in ABNJ.[36]

Regarding capacity building, it is important to provide developing states a general understanding of marine genetic resources in ABNJ. An effective way of doing this would include technology transfer through training or education programs, for instance, on access to resources and biodiversity assessment.[37] The development of the necessary technological infrastructure would also be a tool for facilitating technology transfer.[38] This is in line with the UNCLOS which provides general obligations on the transfer of marine science and technology on fair and reasonable terms and conditions in Part XIV covering development and transfer of technology on utilization of marine genetic resource s.[39]

Sharing Linked to the Utilization of Marine Genetic Resources from Areas beyond National Jurisdiction," 109 Marine Policy (2019) online 103696, p.7.

35) Chuxiao Yu, "Implications of the UNCLOS Marine Scientific Research Regime for the Current Negotiations on Access and Benefit Sharing of Marine Genetic Resources in Areas Beyond National Jurisdiction," 51 Ocean Development & International Law 2 (2020), p.13.

36) Ibid., p.13.

37) Jane Eva Collins et al., op. cit., p.6. Items on technology transfer are listed as non-monetary benefits in the Annex to the Nagoya Protocol. See Nagoya Protocol, Annex 2 (f) & (g).

38) Harriet Harden-Davies, "Research for Regions: strengthening marine technology transfer for pacific Island Countries and biodiversity beyond national jurisdiction," 32 International Journal of Marine and Coastal Law 797 (2017), p.801.

In terms of the sharing of monetary benefits, both domestic stakeholders and the government do not seem to prefer such sharing. A number of methodologies have been introduced including "payments (up-front, milestone or royalties); fees (access, license or special); research funding; joint intellectual property rights ownership and patents."[40] In most cases, they do not imply the sharing of the monetary value inherent in the marine genetic resources. They rather mean the sharing of the monetary benefits generated from the commercialization of inventions made based on information obtained from the marine genetic resources collected.[41] For this reason, Korean domestic stakeholders as well as the government do not seem to prefer sharing monetary benefits that are generated through human efforts or creative activities including research and financial investments.[42]

In reality, the chances of successful commercialization of marine genetic resources are very low and determining them by monetary values is hardly possible.[43] Before their commercial

39) See Articles 266, 267, 268 and 269 of the UNCLOS.

40) Harriet Harden-Davies, "Deep-sea Genetic Resources: New Frontiers for Science and Stewardship in Areas beyond National Jurisdiction," 137 Deep-Sea Research II 504 (2017), p.506.

41) International Institute for Sustainable Development, Summary of the First Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 4-17 September 2018, Earth Negotiations Bulletin: A Reporting Service for Environment and Development Negotiations, vol. 25 no. 179 (20 September 2018), p.4.

42) This view is inconsistent with an approach taken by the international regime under the Nagoya Protocol and the CBD where it covers both monetary and non-monetary benefits. See Nagoya Protocol, Annex 1 (a) – (j).

43) Arianna Broggiato, Thomas Vanagt, Laura. E. Lallier, Marcel Jaspars, Geoff Burton & Dominic Muyldermans, op. cit., p.23; Sun, op. cit., p.304.

biotechnological applications, marine genetic resources only have potential economic value.[44] Hence, in the sense that few research activities associated with utilization of marine genetic resource lead to commercial gains, establishing a system of monetary obligations may discourage states from developing marine genetic resources and, thus, hinder scientific research overall.

III. Conclusion

In order to achieve success in drafting the ILBI, the state governments have to engage in the negotiations based on a clear understanding of the positions of domestic stakeholders including related experts, private enterprises, and NGOs. This study dealt with the issue in which different views are highly likely to exist among state governments in the Intergovernmental Conference, namely, the benefit-sharing modalities of marine genetic resources. By using the Delphi technique, three rounds of a questionnaire survey were conducted to effectively assess the opinions of domestic stakeholders on the sharing of monetary and non-monetary benefits.

According to the result of the survey, as the position of the domestic stakeholders on the sharing of non-monetary benefits is unclear, the Korean government seems to maintain its position that non-monetary benefits could be shared but only on a voluntary basis. In terms of the sharing of monetary benefits, on the other hand, domestic stakeholders' opinions converged successfully to a certain degree. It was found that they do not prefer the sharing of monetary benefits as a system of monetary

44) Arianna Broggiato, Thomas Vanagt, Laura. E. Lallier, Marcel Jaspars, Geoff Burton & Dominic Muyldermans, op. cit., p.17.

obligations may discourage states from developing marine genetic resources and hinder scientific research. This is apparently in line with the view of the government.

Recently, the Korean government has been working to converge the different positions of domestic stakeholders by holding a series of meetings with regard to the BBNJ negotiations, as well as to reflect their opinions in future negotiations. The rapid growth of the Korean marine bio-industry led to a sharp rise in the number of stakeholders in the field, with an intricate web of interests among them. Hence, domestic stakeholders' opinions regarding the ILBI are highly likely to change. It is necessary to continuously investigate their opinions so that their changing opinions can be constantly monitored.

The establishment of counterstrategies for future negotiations and domestic/overseas policies based on the positions of domestic stakeholders will lead to optimal results that can maximize the national interest. In addition, it is deemed important for the governments directly involved in the negotiations for ILBI development to set up a system whereby they can discuss and cooperate with domestic stakeholders on this issue in a continuous and systematic manner.

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국문요약

국가관할권이원 해양유전자원의 이익공유 형태에 대한 한국이해관계자의 입장 검토: UN BBNJ 협상에서의 논의를 중심으로

이길원 · 김진영 · 모영동

국제연합(United Nations, UN) 총회는 국가관할권이원 해양생물다양성(biodiversity beyond national jurisdiction, BBNJ)의 보존 및 지속가능한 이용과 관련하여 UN해양법협약에 따라 법적 구속력이 있는 국제문서(이하 'BBNJ 법률문서')를 개발하기로 결정하였다. BBNJ 협상의 주요 의제 중 하나는 해양유전자원의 거버넌스이다. 이는 선진국과 개발도상국 사이 첨예하게 대립하는 이슈에 해당한다. 앞으로의 문안 작성을 위한 정부간 회의(Intergovernmental Conference)에서 해당 이슈에 대한 당사국간 의견 수렴여부가 새로운 문서의 성안여부를 확정 지을 결정적 변수가 될 것으로 보인다.

BBNJ 법률문서는 국가들뿐만 아니라 국내 이해관계자들에게도 상당한 영향을 미치기 때문에, 각국 정부들은 이들의 입장에 대한 명확한 이해를 바탕으로 BBNJ 협상에 참여하여야 할 것이다. 본 협상에 적극적으로 참여하고 있는 한국 정부는 최근 자신의 입장을 표명한 문안 제안서(textual proposals)를 제출한 바 있으나, 국내 이해관계자들의 의견이 해당 제안서에 충분히 반영되었는지는 확실치 않다.

따라서 본 연구는 국가관할권이원 해양유전자원 의제 중 이익공유 형태에 관한 한국 이해관계자들의 의견을 검토하고, 관련 논의에 대한 향후 방향에 대해 살펴보고자 하였다. '델파이 기법(Delphi Technique)'을 활용한 세 차례의 설문 조사를 실시하여 국내이해관계자들의 의견을 확

인하였다.

조사 결과에 따르면, ‘비금전적 이익’의 공유에 대한 국내이해관계자들의 입장이 불명확하다는 점에서 한국 정부가 ‘비금전적 이익’에 대한 자발적 공유를 규정할 것을 제안한 것으로 이해된다. 한편, 국내이해관계자들이 ‘금전적 이익’에 대한 공유를 선호하지 않는다는 점이 확인되었다. 인간의 노력이나 창작활동에 따라 발생한 ‘금전적 이익’을 공유하는 것에 대해 부담을 가지는 것으로 이해되며, 이러한 태도는 정부의 입장과 일치하는 것이기도 하다.

이길원 · 김진영 · 모영동
해양유전자원, 이익공유, 국가관할권이원, 한국 이해관계자, 델파이기법