

Analysis on the Legal Attribute of Biodiversity in the International Seabed Area

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Abstract

With the advancement in science and technology, humans have opened up new areas in ocean in recent years. Ocean, which was considered to be monotonous, constant and endless, has been recognized as a complex, changeable and limited object. Protection of biodiversity in the international seabed area has caused growing concern of the international community. And all efforts should be based on its reasonable characterization. As for this paper, it emphasizes on the analysis of legal attribute of biodiversity in the international seabed area. It summarizes and compares several similar concepts at the present stage and derives that “common heritage of mankind” should be regarded as its legal attribute. Moreover, the paper further analyzes the internal reasons.

Keywords

International law, international seabed area, legal attribute, common heritage of mankind.

1. Basic Situation of Biodiversity in the International Seabed Area

Most of the earth surface is covered by seawater. Ocean accounts for 71% of the total area of the earth. Wherein, 2/3 of it is water beyond national jurisdiction. ¹The international seabed area (hereinafter referred to as “area”) is a new legal concept created by United Nations Convention on the Law of the Sea. It covers “seabed, ocean floor and subsoil thereof, outside the jurisdiction of any state”. It is also referred to as “deep seabed” by the traditional international law. The “area”, with a total area of approximately 251.7 million square kilometers, occupies 49% of the earth surface. Energy reserves in the “area” are sufficient to operate plants on the planet for centuries. In addition, this is a place where metals and rare earth elements are richer than anywhere else on land. ²It is the potential strategic resource base that has not been fully understood and utilized by humans. ³

Due to the harsh, complex and extreme environment in deep seabed - low temperature, high pressure and darkness, it was once considered as a lifeless “oceanic desert”. However, with the improvement of deep-sea exploration technology, humans have continued to deepen their understanding of deep seabed. More and more unique mineral resources and biodiversity in deep seabed have been discovered and utilized by humans. The value of biodiversity in deep seabed not merely lies in its various species and huge quantities. It is more important that the discovery of deep-sea creatures changes the traditional cognition: it is lifeless in the toxic and oxygen-deficient environment, with extreme temperatures and without light. With the abilities to resist low (or high) temperature, toxic, darkness and high pressure, deep-sea creatures greatly enrich the biological gene bank. They are of considerable application value in human medicine, industry and environmental protection. ⁴

¹ Report on the 8th Meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Sea of the Law (A/62/169), Work Report of the 62nd Session of the United Nations General Assembly, p. 7.

² International Seabed Authority, Technical Brochures/fosters: Seabed Technology.

³ Li Shangyi: Cognize Ocean, Exploit Ocean, Mining and Metallurgical Engineering, 2006 (2), p. 2.

⁴ Shen Guoying: Marine Ecology, Science Press, 2010, p. 264.

Article 2 of Convention on Biological Diversity provides: biodiversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. "Biological resources" includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.⁵ Biological genetic resources are parts of biodiversity. Moreover, they are primary materials to produce food, medicine, seeds, cosmetics, etc. At the level of the current economic development and society, it is of great practical significance to research and utilize these resources.⁶

Although there are lots of technical obstacles to develop biological resources in deep seabed, those which have been applied to commerce and obtained patents should be mentioned.⁷ These biological resources appear to have immense scientific, technological and commercial potentials. It is stipulated in Article 2 of Convention on Biological Diversity: "genetic resources" refer to genetic materials of actual or potential value. These materials originate from plants, animals, microorganisms, etc.⁸ Genetic resources are the core of biodiversity. The value of biodiversity is manifested in the biotechnological exploitation of genetic resources. The uniqueness of biological resources in the "area" makes this issue draw world-wide attention. According to Article 141 of United Nations Convention on the Law of the Sea, the "area" shall be open to use exclusively for peaceful purposes by all states, whether coastal or landlocked, without discrimination and without prejudice to the other provisions of this part.⁹ In order to implement the "area" system established by United Nations Convention on the Law of the Sea, the international community specifically set up International Seabed Authority (hereinafter referred to as "authority") to organize and control activities in the "area".¹⁰ Under the existing framework of international law, there are no clear legal provisions. As a result, there is a shortage of effective regulation and reasonable supervision to develop and utilize biodiversity in the "area".¹¹ Biopiracy may occur at any time. Therefore, it is a top priority to specify the development and utilization of biological resources in the "area" as soon as possible. And to solve this problem, it is necessary to first clarify its legal attribute.

2. Disputes about the Legal Attribute of International Seabed Area

From February 13 to February 17, 2006, the UN General Assembly Open-ended Informal Ad Hoc Working Group held a meeting at UN headquarters in New York. It discussed the conservation and sustainable use of marine biodiversity beyond national jurisdiction. More than 250 people (delegations, United Nations agencies, intergovernmental organizations and non-governmental organizations) attended the meeting. Hot topics reflected in the meeting include: (1) legal framework of marine biodiversity outside the jurisdiction of any state; (2) legal status of genetic resources of

⁵ Article 2, Convention on Biological Diversity.

⁶ Tan Yusheng: the State Obligation and Responsibility of Exploration and Exploitation in International Seabed – Taking the Obligation of "Due Diligence" as A Core, Pacific Journal, September 2013, 21 (9), p. 74–84.

⁷ S. Arico, C. Salpin, "Bioprospecting of genetic resources of the deep seabed: scientific, legal and policy aspects" (Yokohama, UNU-IAS, 2005), p. 19-20.

⁸ Article 2, Convention on Biological Diversity.

⁹ Article 141, United Nations Convention on the Law of the Sea.

¹⁰ Zhang Hui: Some Pending Issues in the Development of International Seabed Area Regime, Legal Forum, September 2011, 26 (5), p. 91.

¹¹ Gu Haibo, Sui Jun: Genetic Sources: from Biopiracy to Fair Access and Benefit Sharing – Discussion on Legislation, Journal of Northeastern University (Social Science), September 2012, 14 (5), p. 443.

deep-sea creatures; (3) marine scientific research; (4) marine protected areas; (5) relevant measures to be taken in the short term.¹²

In terms of “the legal status of genetic resources of deep-sea creatures”, the Group of 77 and China believe that preference shall be given to the principle of common heritage of mankind. They emphasize that benefits resulting from the development of deep-sea genetic resources should not be privileges of countries with advanced economy and technology. New international legal mechanisms should be established so that developing countries can also share such benefits. Specifically, some developing countries advocate utilizing and expanding functions of International Seabed Authority. And some other countries deem that the establishment of new legal frameworks should be taken into consideration simultaneously. For disputes about the legal attribute of biodiversity in the “area”, it is worthwhile to carry out comparative analysis on the relevant concepts, namely, common property of mankind, common concern of mankind and common heritage of mankind.

2.1 Common properties of mankind

Common properties of mankind mean that the resource does not belong to any national sovereignty. All countries are free to develop and utilize it. The theory of common properties of mankind highlights the principle of freedom of high seas. That is, high seas are common wealth of mankind. They can be equally and commonly used by all countries. No country can afford to advocate sovereignty or exercise jurisdiction.¹³

At present, the theory of common properties of mankind is still applicable to high seas, especially high-seas fisheries. Nevertheless, many restrictions are added in comparison with the traditional and absolute principle of freedom of high seas. For example, while developing and utilizing high-seas resources, a country shall reasonably take into account the interests and freedom of other countries to use high seas. While engaged in high-seas fisheries, a country shall pay attention to the protection and conservation of fishery resources as well as the protection of rare and endangered wild animals and plants, etc.

2.2 Common concerns of mankind

In recent decades, countries have been getting increasingly integrated and interdependent. The “cooperation” in all fields has become a new trend. Under this new trend, countries gradually began to realize the existence of common interests of mankind (crucial to the survival and development of all human beings). The object of international law began to undergo significant changes on two parallel tracks: on the one hand, the law began to adjust fields not covered by the traditional sovereignty, such as Polar Regions, outer space, international seabed and so on. On the other hand, the law began to focus on matters belonging to national jurisdiction in the past. It is out of the need to safeguard common interests of mankind that the concept of “common concerns of mankind” came into being.

“Common concerns of mankind” first appeared in the area of climate change. On December 6, 1988, the No. 43/53 resolution of UN General Assembly (Protection of Climate Changes for Present and Future Generations of Mankind) admitted: “climate change is a matter of common concern of mankind. This is because climate is critical to sustain life on earth.”¹⁴ However, this concept was

¹² The above content is quoted from Conservation and Sustainable Use of Marine Biodiversity beyond National Jurisdiction – Several Hot Topics of the Informal Working Group Meeting. Source: Permanent Mission of PRC to International Seabed Authority: [http:// china- isa.jm. chineseembassy. org/chn/xwdt/t240388.htm](http://china-isa.jm.chineseembassy.org/chn/xwdt/t240388.htm).

¹³ Liu Huirong, Ji Xiaoxin: Discussion on the Common Heritage of Mankind Property of Biodiversity in the High Seas, *Research on Rule of Law*, 2011 (7), p. 71-72.

¹⁴ The idea has been accepted by United Nations Framework Convention on Climate Change. It is mentioned in the preface. Source: Gong Wei: Study on the Differential Treatment in the International Cooperation on Climate Change, *Law Review (Bimonthly)*, 2010 (4), p. 80.

conformed and reinforced in the field of biodiversity. It is pointed out in Convention on Biological Diversity that, “it is a common concern of humankind to confirm biodiversity conservation.”¹⁵ Although the words “common concerns of mankind” only appear in the preface for once, they are basic guidelines during the negotiation process of the convention. The stipulation for “common concerns of mankind” in Convention on Biological Diversity marks the formal establishment of this concept in international law. This concept specially adapts activities or resources within the sovereign jurisdiction of individual countries but belonging to the common interests of the international community.

2.3 Common heritage of mankind

“Common heritage of mankind” was first proposed in 1967 by the Argentine Ambassador Cauca. It was applicable to the Moon and other celestial bodies as well as their resources. The concept was later ported to the law of the sea to be applicable to seabed resources beyond national jurisdiction. On August 17, 1967, ambassador of the Permanent Mission of Malta to the United Nations - Pardo – put forward, the UN General Assembly should put this item on the agenda, with the title “Declaration and Treaty of Exclusively Reserving the Seabed, the Ocean Floor and the Subsoil thereof, beyond National Jurisdiction, for Peaceful Purposes and Using the Resources for the Welfare of All Mankind”. On December 17, 1970, the UN General Assembly resolution 2749 (Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil thereof, beyond the Limits of National Jurisdiction) declared: “the seabed, ocean floor, subsoil thereof and resources, beyond the limits of national jurisdiction, are common heritage of mankind.”¹⁶ Thereafter, after nearly 9 years of consultation and deliberation, UNCLOSIII adopted United Nations Convention on the Law of the Sea in 1982. One of the greatest achievements of the convention was that it developed the system of international seabed areas on the basis of common heritage of mankind and established the position of common heritage of mankind in the convention and international law. For example, Article 136 of the convention stipulates: “the area and its resources are the common heritage of mankind.”¹⁷

According to the analysis of “common properties of mankind”, “common concerns of mankind” and “common heritage of mankind”, legal attribute of biodiversity in the “area” should be “common heritage of mankind”.

3. The Attribute of “Common Heritage of Mankind” of the International Seabed Area

3.1 Features of “common heritage of mankind”

In the existing international legal norms, the most explicit stipulations about “common heritage of mankind” are those about the “area” and resources in the “area” in United Nations Convention on the Law of the Sea. According to the regulations, “common heritage of mankind” has the following characteristics:

It is common to all human beings

Article 137 of United Nations Convention on the Law of the Sea provides: “no state shall claim or exercise sovereignty or sovereign rights over any part of the ‘area’ or its resources, nor shall any state or natural or juridical person appropriate any part thereof.” “All rights in the resources of the ‘area’ are vested in mankind as a whole, on whose behalf the authority shall act.”¹⁸

It is the common interest of all humankind

¹⁵ Preface of Convention on Biological Diversity.

¹⁶ Jin Yongming: Research on the Legal Nature of Common Heritage of Mankind, Social Science, 2005 (3), p. 60.

¹⁷ Article 136, United Nations Convention on the Law of the Sea.

¹⁸ Paragraph 1, 2, Article 137, United Nations Convention on the Law of the Sea.

It is stipulated in Article 140 of United Nations Convention on the Law of the Sea: “activities in the ‘area’ shall, as specifically provided for in this part, be carried out for the benefit of mankind as a whole, irrespective of the geographical location of states, whether coastal or landlocked, and taking into particular consideration the interests and needs of developing states and of peoples who have not attained full independence or other self-governing status recognized by the United Nations in accordance with General Assembly resolution 1514 (XV) and other relevant General Assembly resolutions.”¹⁹

It is exclusively used for peaceful purposes

According to Article 141 of United Nations Convention on the Law of the Sea, “the ‘area’ shall be open to use exclusively for peaceful purposes by all states, whether coastal or landlocked, without discrimination and without prejudice to the other provisions of this part.”²⁰

It shall be equally shared

It is specified in Paragraph 2, Article 140 of United Nations Convention on the Law of the Sea: “the authority shall provide for the equitable sharing of financial and other economic benefits derived from activities in the ‘area’ through any appropriate mechanism, on a non-discriminatory basis, in accordance with Article 160, Paragraph 2 (f) (1).”²¹ For the development of common heritage of mankind, even if countries cannot participate in the actual development and utilization activities, they can share benefits obtained from the development. At the same time, they should coordinate the distribution of benefits in all aspects through rational institutions and systems.²²

3.2 The legal attribute of “common heritage of mankind” is decided by the legal status of the “area” itself

According to the provisions of United Nations Convention on the Law of the Sea, the “area” refers to the seabed, the ocean floor and the subsoil thereof, beyond the limits of national jurisdiction.²³ Biodiversity in the “area” is dependent on its unique ecosystem formed by the extreme environment. This makes biodiversity in the “area” be of extremely high value for development and utilization.

The exploration and development of the “area” by humans will have incalculable even devastating effects on biodiversity in the “area”. In some zones in the “area”, mineral resources and biological resources have formed an inseparable whole and even a special symbiotic relationship under the long-time influence of the environment. United Nations Convention on the Law of Sea states: “the ‘area’ and its resources are the common heritage of mankind.”²⁴ “Resource” refers to all solid, liquid or gaseous mineral resources, including polymetallic nodules, in the seabed or the original positions in the ‘area’. Resources recycled from the ‘area’ are called ‘minerals’.”²⁵ Restricted by the scientific and technical levels when the convention took effect, biodiversity was not included. Essentially, they belong to a whole. If biodiversity in the “area” is re-characterized, contradictions may occur between the conservation of biodiversity and the development of mineral resources in the “area” in the future.

3.3 “Common heritage of mankind” is the characterization of the “area” in United Nations Convention on the Law of the Sea

Article 136 of United Nations Convention on the Law of the Sea provides: “the ‘area’ and its resources are the common heritage of mankind.” Meanwhile, the convention points out in its preface:

¹⁹ Paragraph 1, Article 140, United Nations Convention on the Law of the Sea.

²⁰ Article 141, United Nations Convention on the Law of the Sea.

²¹ Paragraph 1, Article 140, United Nations Convention on the Law of the Sea.

²² Wang Chuanhui: Discussion on the Principle of Common Heritage of Mankind, Jiangsu Social Science, 1996 (6), p. 20.

²³ Article 1, United Nations Convention on the Law of the Sea.

²⁴ Article 136, United Nations Convention on the Law of the Sea.

²⁵ Article 133, United Nations Convention on the Law of the Sea.

“conscious that the problems of ocean space are closely interrelated and need to be considered as a whole; recognizing the desirability of establishing through this convention, with due regard for the sovereignty of all states, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment; bearing in mind that the achievement of these goals will contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or landlocked, ... the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of states; believing that the codification and progressive development of the law of the sea achieved in this convention will contribute to the strengthening of peace, security, cooperation and friendly relations among all nations in conformity with the principles of justice and equal rights and will promote the economic and social advancement of all peoples of the world, in accordance with the purposes and principles of the United Nations as set forth in the Charter.”²⁶

Thus, it can be seen that, the purpose of United Nations Convention on the Law of the Sea is to safeguard the interests of all human beings. Meanwhile, it emphasizes on the interests and needs of developing countries. At the 62nd Session of the UN General Assembly in 2007, the delegates had controversies during the discussion on marine genetic resources beyond national jurisdiction: they express different views about legal systems related to marine genetic resources outside the jurisdiction of any states. Namely, whether these resources are part of the common heritage of mankind and governed by the “area” system or they are part of the regime of high seas.²⁷

According to the assessment of World Bank in 1993, research institutions related to marine biology and marine biotechnology scattered throughout the developing countries. However, their power varied greatly. Although many institutions have the ability to carry out basic marine biological tests, most of them fail to launch complex projects.²⁸ The development and utilization of biodiversity in the area of developing countries are dependent on the strong technical support of developed countries. As was revealed in the report of UN Secretary General, “in order to develop the necessary capacity and technology to fully benefit from marine genetic resources (including those beyond national jurisdiction), developing countries need to get their way into the knowledge base and obtain the abilities to learn, master and adapt themselves to the corresponding technologies. This process covers technology transfer through many different ways, including formal ways (such as licensing and foreign direct investment) or informal ways (such as movement of personnel) and (or) market approaches (such as the interaction with upstream suppliers or downstream customers) or non-market approaches (such as technical assistance programs of official development agencies or non-governmental organizations).”²⁹

If biodiversity in the “area” follows inclination of biological resources, rather than select the legal attribute of “common heritage of mankind”, formal equitability and substantial inequality will appear. And this is contrary to the original intention of United Nations Convention on the Law of the Sea.

²⁶ Preface of United Nations Convention on the Law of the Sea.

²⁷ The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.61.

²⁸ The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.55.

²⁹ The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.56.

It was mentioned in the amendment description of the executive secretary of the COP on Convention on Biological Diversity held in Montreal in 2003: “the principle of common heritage of mankind under United Nations Convention on the Law of the Sea can provide an important and fundamental concept for the protection of genetic resources in deep seabed.”³⁰This shows that the extension of “the principle of common heritage of mankind” of the convention to biodiversity has come into international view. It is in line with the definition of United Nations Convention on the Law of the Sea about the “area”. Furthermore, it conforms to the basic principles of the convention.

3.4 The legal attribute of “common heritage of mankind” is in conformity with the current biodiversity conservation in the “area”

There is no doubt as to the value of biodiversity in the “area”. Assessment of the actual or potential economic value of marine genetic resources beyond national jurisdiction will enable people to understand the economic and social benefits of such resources. In addition, it can provide evidences for conservation and sustainable use measures possible to be taken, thereby facilitating decision-making.³¹

In 2006, the global public biotechnology sector earned more than 73 billion dollars. Nearly 28 billion dollars were used for research and development. In 2006, the biotechnology industry grew by 14%. Currently, many biotech companies are entering late-stage clinical trials. According to the estimate in 2003, the global sales of marine biotechnological products were approximately \$ 2.4 billion in 2002.³²In addition, marine genetic resources, including those beyond national jurisdiction, are also sources of livelihood. This is because they provide employment opportunities for public research institutions and private companies.³³Under the influence of such huge economic and social values, definition of the legal attribute of biodiversity in the “area” is directly related to its rational exploitation and conservation.

“Common heritage of mankind” was not present at the birth of international law. Certainly, it is not immutable. It changes with the development of international law and makes new breakthroughs with the human exploration of the world. More importantly, this is the result of competitions and games of national interests and strength. Therefore, definition of the legal attribute of biodiversity in the “area” must adapt to its protection.

³⁰ Research on the Relations between Convention on Biological Diversity and United Nations Convention on the Law of the Sea – Protect and Sustainably Use Genetic Resources in Deep Seabed Beyond National Jurisdiction, International Seabed Information, Issue 12, p. 14.

³¹ The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.49.

³² The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.48.

³³ The Provisional Agenda of the 62nd Session of the United Nations General Assembly 79 (a) Addendum to the Report of the Secretary of Ocean and the Law of the Sea (A/62/66/Add.2), p.48.