Some Considerations on Establishing an International Regime on Exploration and Use of the Natural Resources of the Moon and Other Celestial Bodies

Prof. Li Shouping[①]

Director of Space Law Institute

Beijing Institute of Technology, Beijin,China.

lishouping@bit.edu.cn

Introduction

With the development of space activities and space technology, one of the main missions of deep space exploration of space states is exploration and use of the natural resources of the moon and other celestial bodies. However, the present international regime fails providing any clear regulation to define the legality and exploitation process of natural resources on the moon and other celestial bodies. Given the international practices, neither united standpoint nor prevalent opinion has been achieved for this part. To perfect the present international regime concerning the exploitation and use of natural resources on the moon and other celestial bodies, therefore, has vital importance to international community.

Through the analysis concerning the principle of "the common heritage of mankind", this paper leads the conclusion that the international regime on exploitation and use of natural resources on the moon and other celestial bodies shall be constructed and perfected under the guidance of "the common heritage of human" principle.

[①] Professor Li Shouping, LL.M.,PH.D in law, Director of Space Law Institute, Beijing Institute of Technology, Beijing,China. Email: lishouping@bit.edu.cn.

Consequently, this paper is divided into 3 chapters. The first chapter is about the principle of "the common heritage of mankind" and the practice in international space laws. For such principle, it is not limited to Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement or MA for short), which is also applied in the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty or OST for short) and other exploitation and use of natural resources in outer space.

Furthermore, the second chapter discusses about the necessity to establish the international regime guided by the principle of "the common heritage of mankind". To be more specific, the establishment of such international regime answers not only the requirement from the principle itself but also the requirement from states to exploit and use natural resources out of their sovereignty.

The third chapter, last but not the least, continues to study how to found such international regime, which is systematically, including setting up both the management regime and lawsuit regime on the exploitation and use of natural resources on the moon and other celestial bodies.

I. The Principle of "The Common Heritage of Mankind" And Its Applications in International Space Laws

A. The principle of the common heritage of mankind in law of sea

"The common heritage of mankind" has been presented for the first time by Arvid Padro,the ambassador of Malta in United Nations, in August, 1967.He came out with those words as "Ocean-bed is the common heritage of mankind."[②] And the 25th Assembly has confirmed such principle by defining "the sea-bed and ocean floor, and the subsoil thereof... are the common heritage of mankind" in Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof,

[②] Tieya Wang, "The Concept of 'the Common Heritage of Mankind'", in *Chinese Yearbook of International Law*, 1984.

beyond the Limits of National Jurisdiction.[3] United Nations Conference on Trade and Development (hereafter UNCTD) adopted the resolution to exploit natural resources in sea-bed on the 1st of June,1979. The resolution reiterated that the sea-bed and ocean floor, and the subsoil thereof... are the common heritage of mankind. [4] The United Nations Convention on the Law of the Sea, which has been passed in 1982, also shares the same principle in Article 136 as "The Area and its resources are the common heritage of mankind." Since then, the principle of "the common heritage of mankind" has been applied widely in the international law of sea.

Considering the history, the principle of "the common heritage of mankind" has its specific meanings and contents. In 1967, when Padro advocated this principle, he also mentioned some measures to be taken in order to protect this principle, such as "1. the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall not be subject to appropriation by any means by States; 2. Exploration of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall conform to the principles and aims of the Charter of UN; 3. The development of use of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall maintain the intrestes of mankind. the profit of use of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall be used for the development of developing countries; 4. the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall be used for peaceful purpose."[5]

Moreover, Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction in 1970 has also mentioned some similar principles followed "the common heritage of mankind". By Article 2, it provides " The area shall not be subject to appropriation by any means by States or persons, natural or juridical, and no State shall claim or exercise sovereignty or sovereign rights over any part thereof." "No State or person, natural or juridical,

---

[3] Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, the General Assembly, 2749(XXV),December 17th,1970.
[4] UN Document: A/CONF.62/79(1979).
[5] UN Document: A/6695(1967).

shall claim, exercise or acquire rights with respect to the area or its resources incompatible with the international regime to be established and the principles of this declaration." " The area shall be open to use exclusively for peaceful purposes by all states, whether coastal or land-locked, without discrimination, in accordance with the international regime to be established."[6]

After declaring the principle of "the common heritage of mankind", The United Nations Convention on the Law of the Sea in 1982 has also prescribed: "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. No such claim or exercise of sovereignty or sovereign rights nor such appropriation shall be recognized." "All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act."[7]

Based on those opinio juris, the principle of "the common heritage of mankind" is treated as the basic principle in international law of sea. To be more specific, its basic implications and legal characteristics include: first of all, it applies to international ocean floor as a whole, which is beyond states' jurisdiction; secondly, no state shall claim or exercise its sovereignty there; thirdly, no person, naturally or juristically, shall appropriate this area; fourthly, the natural resource in this area belongs to mankind, and the exploitation shall be under an international regime; fifthly, this area shall be used exclusively for peaceful purposes.

B.*The principle of the common heritage of mankind in international laws*

As a matter of fact, even before Arvid Padro came out with this principle, The Antarctic Treaty in 1959 has also implied this principle throughout its provisions. In the preamble of this treaty, it provides that "...a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica". And in Article 1, the regulation goes as "Antarctica shall be used for

[6] Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, the General Assembly, 2749(XXV),December 17th,1970. Article 1,2,3,45.
[7] The United Nations Convention on the Law of the Sea, Article 137, p 70.

peaceful purposes only." "No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica." ⑧

Even though this treaty has not clearly prescribed the principle of "the common heritage of mankind", it still provides that no state shall claim or exercise its sovereignty in Atlantic, and the use shall be exclusively for peaceful purpose. In fact, before the Atlantic Treaty, the prime minister of India has advocated in 1956 that we shall treat Atlantic as the common heritage of mankind. When the amendment day is coming, some certain states further advocate that the international regime concerning Atlantic shall be clarified, thus the amendment probably based on the principle of "the common heritage of human". ⑨

Even in 1958, the first United Nations conference on law of sea, the representative from Thailand presented such words as the ocean is the common heritage of mankind, and shall be protected for the interest of mankind as a legacy. However, the following conference and the final Law of Sea has never mentioned this.

As to outer space Declaration passed by the General Assembly in 1963, it also provides that "The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries" "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."And "States Parties to the Treaty shall carry on activities in the exploration and use of outer space…in the interest of maintaining international peace and security and promoting international co-operation and understanding." ⑩ This is the first time in space law to prescribe that no state shall claim or exercise sovereignty in outer space, and the use and exploitation of outer space shall be exclusively for

⑧ The Atlantic Treaty, Preamble, Article 1, 4.
⑨ Tieya Wang, "The Concept of 'the Common Heritage of Mankind'"
⑩ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 2222(XXI), Article1, 2,3. For details see Li Shouping and Zhao yun, Introduction to the Law of Outer Space, Guang Ming Daily Press : Beijing, 2009, p. 251.

peaceful purpose and in the interest of mankind.

From those practices previously, the international community has agreed to some similar legal characteristics in the principle of "the common heritage of mankind". First of all, this principle has been advocated and applied in some certain areas like the ocean, the ocean floor, Atlantic and outer space. Those areas in the first place share one same characteristic as beyond any state's jurisdiction.

Furthermore, such concepts all prevent any state from claiming or exercise any sovereignty in the certain areas.

Finally, such concepts all prescribe the natural resources there shall be used in the interest of all peoples and exclusively for peaceful purposes.

Apparently, those characteristics aforementioned reflect that the principle of "the common heritage of mankind" advocated by Arvid Padro in 1967 as the ambassador of Malta is far from a fancy, which actually serves as the summary of all those similar concepts and its legal characteristics.

Outer space Treaty in 1967 has also been impacted by such principle, which for the first time presented comparatively clearer international regime. In the preamble of this treaty, it prescribes "Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes" And in Article 1, it provides that the exploitation and use of outer space is "for the benefit and in the interests of all countries". Article 2 further prescribes that outer space is not subject to "national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[11]

In 1970, the General Assembly has made the Declaration on Sea-bed and Ocean Floor, trying prescribing this principle clearly for the first time. At the same time, Argentina proposed UN COPUOS Legal Subcommittee a Draft of Principles Guiding the Exploitation and Use of Natural Resources on the Moon and Other Celestial Bodies, with the point that "the natural resources on the moon and other celestial bodies shall be treated as the common heritage of mankind" and benefits from the

[11] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 2222(XXI), Article1, 2,3. For details see Li Shouping and Zhao yun, Introduction to the Law of Outer Space, Guang Ming Daily Press : Beijing, 2009, p. 229.

exploitation shall be enjoyed by all countries.[12]

As to the Moon Agreement, it is the first time in the history to provide "the common heritage of mankind" clearly in international laws. Based on the Moon Agreement, "The moon and its natural resources are the common heritage of mankind"; "the moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means."; "An equitable sharing by all States Parties in the benefits derived from those resources," "In order to facilitate the establishment of the international regime…States Parties shall inform the Secretary-General of the United Nations …to the greatest extent feasible and practicable, of any natural resources they may discover on the moon."[13]

The United Nations Convention on Law of Sea in 1982 has again advocated the principle of "the common heritage of mankind" in international law of sea. Besides, it also develops such principle defined in the Moon Agreement with more distinct and complete provisions.

In accordance with the discussion above about the principle of "the common heritage of mankind", such principle has already formed international custom in modern international law. Based on Article 38 in Statute of International Court of Justice, international custom can be only formed on two requirements: national practice and acceptance as law.

From the point of the development of the concept of "the common heritage of mankind", The Atlantic Treaty provides this concept as international convention, followed with other international regime or legal concept. For instance, in 1967, when Arvid Padro at first advocated this concept, he also described systematically and clearly how to build up an international regime in order to deal with the common heritage of mankind. Thus, the concept itself has been accepted as law. Besides, the General Assembly has passed a series of resolutions to declare the principle of "the common heritage of mankind". Although these resolutions are not resources of international law, but their legal effect and contents cannot be overlooked, which

[12] UN document, A/AC. 105/L. 71.

[13] The Moon Agreement, Article 11. For details see Li Shouping and Zhao yun, Introduction to the Law of Outer Space, Guang Ming Daily Press : Beijing, 2009, p. 247.

imply the acceptance as law in international community themselves.

At the same time, this principle has been applied constantly through the Atlantic Treaty, Moon Agreement and United Nations Convention on Law of Sea. For international community, this principle has also been observed in certain international practices. At this point, this international practice of applying "the common heritage of mankind" principle has been formed in those public areas beyond any state's jurisdiction.

According to such international practice, the principle of "the common heritage of mankind" has been bestowed with certain legal implication and legal characteristics. First of all, this principle is applied to all areas beyond the states' jurisdiction; secondly, no state shall claim or exercise any sovereignty or sovereignty rights there; thirdly, any exploitation or use of natural resources in such areas shall be in the interest of all peoples with no discrimination; fourthly, the exploitation and use shall be exclusively for peaceful purposes.

II the Necessity to Establish International Regime Under the Frame of "The Common Heritage of Mankind" Principle

Under the frame of "the common heritage of mankind", the natural resources on the moon and other celestial bodies are neither tenancy in common nor unclaimed property. However, just like international ocean floor, there are abundant of natural resources on the moon and other celestial bodies, whose potential in business is incredibly magnificent. Obviously, it is of vital importance to exploit the natural resource on the moon and other celestial bodies. Therefore, to build up an international regime to exploit the natural resources fulfills the requirement of the principle of "the common heritage of mankind".

In the first place, it is necessary to establish such international regime is because of the unbalance of states' capabilities in exploitation in outer space as well as the nature of "the common heritage of mankind".

For the natural resources on the moon and other celestial bodies, it is a crucial

question which subject of international law shall be entitled to exploit those natural resources on behalf of the mankind, since they are neither tenancy in common nor unclaimed properties. In contemporary international law, no international law has ever attempted to provide clearly which institution is qualified for such exploitation on the moon and other celestial bodies.

Although The United Nations Committee on the Peaceful Uses of Outer Space (COPUOS for short) has been established under the guidance of the United Nations, this committee is still not legally qualified as the representative of all peoples to exploit the natural resources in outer space. Ever since its establishment, COPUOS has defined its principle and function as an institution responsible for deliberation and international coordination, which cannot be treated as an independent subject of international law. Since COPUOS is just a subordinate organization under the frame of the United Nations, its influence and universality is still very limited.[14]

Besides, in international practice in outer space, states' space capacities are quite different from one to another. At present, only a few states like the US and Russia are able to exploit outer space. The solution might be that the international community entitles some state to exploit the natural resources in outer space on behalf of all peoples, which definitely goes the wrong way. Nowadays, it is not only the problem who will exploit the natural resources as representative, but also a question which subject under the international law shall take the responsibility to manage the whole exploitation and distribute benefits obtained from this exploitation.

Therefore, an international regime is desperately in need, which should be a international organization in the interest of the mankind and also the subject of the exploitation in outer space. Under its frame, a series of international regime can be established, including some principles guiding the exploitation and the distribution system of the obtained benefits. Only in this way, the natural resources on the moon and other celestial bodies are ensured the quality to be "the common heritage of

[14] The COPUOS is established under the General Assembly's No. 1472 resolution in 1959, which has 67 state parties including China. Its secretary office locates in Vienna, Austria. It aims at drafting principles and regulations to use outer space peacefully, promoting the cooperation among states in outer space, and studying and researching technological problems and legal problems concerned the exploitation and use of outer space. Browse: [EB]. 2010-7-27.http://www.fmprc.gov.cn/ce/cgvienna/chn/hplywk/COPUOS_CH/t209025.htm.

mankind", and the exploitation can be in the interest of mankind.

In the second place, the international practices of the exploitation of the natural resources in public areas requires an international regime to be built up in order to exploit the natural resources on the moon and other celestial bodies. For half of the century, international community all depends on certain international regime established by the United Nations to exploit in the public areas. As a result, it realizes the well balance between the interest of mankind and interest of exploiter to some extent.

In contemporary international law, public areas refer to those areas beyond any state's jurisdiction, such as international ocean floor, the Atlantic and outer space. In 1982, the United Nations Convention on Law of Sea has defined the principle of "the common heritage of mankind" in international ocean floor, with the international exploitation regime established by International Seabed Authority (ISA for short). Such international practice in sea-bed exploitation reflects that it is feasible to build up an international regime to exploit and use those public areas.

Last but not the least, such international regime to exploit and use the natural resources on the moon and other celestial bodies is also required by the Moon Agreement and other international documents concerned. At present, the Moon Agreement is the only international convention that clearly defines the moon and other celestial bodies as "the common heritage of mankind". In Article 11, it prescribes: "In order to facilitate the establishment of the international regime…States Parties shall inform the Secretary-General of the United Nations …to the greatest extent feasible and practicable, of any natural resources they may discover on the moon."

Apparently, the day the Moon Agreement came into effect, state parties has already taken experience over the exploitation in international public areas into consideration. Even though the Moon Agreement has only a few state parties, [15]international community will finally take the Moon Agreement as an important

[15] Till January 1st, 2009, there are 13 state parties of the Moon Agreement: Austria, Australia, Belgian, Chile, Kazakhstan, Lebanon, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines and Uruguay.

resource of international law in the exploitation and use of the natural resources on the moon and other celestial bodies, no matter which form it takes.

III The Establishment Of An International Regime On the Exploitation Of the Natural Resources On the Moon And Other Celestial Bodies Under the Frame Of the United Nations

According to item 7 in Article 11, the international regime governing the exploitation of the natural resources on the moon and other celestial bodies aims at exploiting, managing the natural resources, promoting the use of them and distributing benefits obtained from the exploitation.[16]

On such basis, to establish the international regime to exploit and use the natural resources on the moon and other celestial bodies requires to consider and solve some fundamental problems at first.

In the first place, the exploitation and use of the natural resources on the moon and other celestial bodies requires thoroughly considering how to balance the obtained benefits from the exploitation among space powers, space states and other non-space states in international community.

Space activities characterize at great-investment, high-risk and long-term-benefits. Any state or entity, who is about to exploit and use the natural resources on the moon and other celestial bodies or other kind of space activities, is supposed to be capable of offering considerable technological and financial support. Therefore, the exploitation on the moon and other celestial bodies is not only concerned about the "common" natural resources, but also concerned about the cost and risk taken by the exploiter. And such problem will find the solution in the international regime to be established.

[16] The 7th item of article 11 of The Moon Agreement provided: The main purpose of the international regime to be established shall include:(a)the orderly and safe development of the natural resouces of the Moon;(b)the rational management of those resources;(c)the expansion of opportunities in the use of those resouces;(d)an equitable sharing by all states parties in the benefits derived from those resources, whereby the intrests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given spaecial consideration.

Meanwhile, outer space Treaty prescribes that the exploitation and use of outer space shall be in the interest of all peoples, with no discrimination of their economic or technological capability. At this point, such international regime should take care of both the benefits of space powers and other developing countries, through which the exploiting states are reasonably guided and encouraged to implement their plans in outer space.[17]

In the second place, the international regime on exploitation and use of the natural resources on the moon and other celestial bodies requires a scientific institution to ensure its normal function. According to item 7 in Article 11 in the Moon Agreement, such institution is responsible for exploiting and managing the natural resources on the moon and other celestial bodies, promoting the use of the natural resources and distributing the obtained benefits.

Therefore, the problem confronting us is under which frame to establish such international regime. There already have been a number of suggestions for solution. For instance, establish an institution just like ISA, which is guided by science and technology; or establish an organization under the International Civil Aviation Organization (ICAO for short).[18] Apparently, to establish a technology-guided institution only solves the problem concerning science and technology, but hardly reflects the nature of this institution to exploit in the interest of all peoples. Under the ICAO, such institution is perhaps unable to manage outer space and represent the humankind. As to the institution similar to ISA, it is open to all states and its authority on behalf of the mankind is at ease to obtain approval in international community.

In the third place, the international regime governing the exploitation and use of the natural resources on the moon and other celestial bodies asks for a series of scientific management and operation rules. For such institution as ISA, international community requires some rules to manage, exploit, promote and distribute the natural resources in outer space, based on the well balance of benefits from exploiting states

[17] James S. Trimble, The international law of outer space and its effect on commercial space activity, 11 PEPP.L.REV. 521,530(1984).

[18] R.J.Rao, Recent trend in international space law and policy 195-99(V.S.Mani ed.1997);Gennady M.Danilenko, Space law:views of the future 106-07(Zwann,ed.1988);V.Verschetin & Kamenetskya, On the way to a world space organization, 12 Annals Air and Space Law,337(1987).

and developing countries.

Among those rules, the prior one is how to establish the internal subordinate organizations and decision-making process in such international regime. Of course, to build up dispute-solving system is also very important during the establishment of laws regulating internal organizations.

The rule at core is to govern the management, exploitation and promotion of the natural resources on the moon and other celestial bodies, including rules of entry authority, basic rules of the exploitation and business use of the natural resources, and rules of promotion thereof.

Naturally enough, in order to balance benefits from exploiting states and developing countries, the crucial problem is how to fairly distribute benefits obtained from the exploitation and business use of the natural resources in outer space, which is also greatly concerned with the authority of such institution in international community. Hence, the system of distribution of obtained benefits is of vital importance.

In the fourth place, the establishment of the international regime governing the exploitation and use of the natural resources on the moon and other celestial bodies requires improving the contemporary international law. Such international regime perfectly meets requirement of the realistic exploitation, but its legal basis in contemporary international law is merely the Moon Agreement. However, the Moon Agreement has a long way to go to be widely accepted, and none of space powers and space states is its state party. Thus their activities are not regulated by the Moon Agreement. At this point, the solution can be either to amend the contemporary Moon Agreement to be more widely accepted, or to draft a brand new international convention concerning the exploitation and use of the natural resources on the moon and other celestial bodies, including details to establish the international regime.

Conclusion

Given the history of the concept and legal principle of "the common heritage of

mankind", such principle has become the international custom in public areas. Under the guidance of such principle, the natural resources on the moon and other celestial bodies are neither tenancy in common, nor unclaimed property. However, similar to international ocean floor, the natural resources on the moon and other celestial bodies have magnificent business potential, so the exploitation of them is important. Therefore, to establish an international regime to govern such activity is desperately in need and also meets the requirement of "the common heritage of mankind" principle.

To establish such international regime on the exploitation and use of the natural resources on the moon and other celestial bodies asks not only a scientific international institution in charge of exploitation, management, promotion and distribution of the natural resources and obtained benefits; but also certain international organization law as well as rules of management and operation. At the same time, the contemporary international space laws still need improvement and development, in order to provide the international regime governing the exploitation and use of the natural resources on the moon and other celestial bodies with legal basis in international law.