"COMMON HERITAGE OF MANKIND" – PROPERTY RIGHTS, IN THE WAKE OF COMMERCIAL USE OF THE MOON AND OTHER CELESTIAL BODIES

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Abstract

In the new generation of space era, there is a tremendous increase in private and commercial involvement in all areas of space activities. All the major space treaties and principles where adopted before the onslaught of this commercial sector. The exploration of the moon and other celestial bodies will further more complicate the already complicated concept of commercial use of outer space. The paper will be exploring the magnitude of the concept of "common heritage of mankind" explained in the 1979 Moon Agreement, which allows the use of outer space for the benefit of humankind. The paper will be looking into the important factors of the limited number of countries which is parties to the moon agreement and will also explore the possibility of considering the different provision of it under customary international law. The paper will further look into sub-article of article XI and other articles of the moon agreement to see how the international regime will be moving forward to explore the outer-space resources with the current international legal regime in place. This study will also look into the Outer space treaty and more specifically the common benefit clause and the scope and implication of article VI, in the light of the present commercial space activities. The work will further discuss the right to property in moon and other celestial bodies in the present scenario. The paper will conclude with an examination of the possible interpretations with the current international legal regime on the property right in outer space and with a note of the need for more international legal collaboration in this frontier.

Introduction

From the onset of space expedition, legal rules have been made to cover the action of human being in outer space. Five international treaties have been made in this specific international legal faction and several general assembly resolutions and declarations have been made in several facets of this area. Unfortunately, after the Moon Agreement, there is a deadlock in the law making with respect to exploration and commercial activities with respect to moon and other celestial bodies.

Outer space is a new Frontier for human race and legal system should be fine tuned to expedite and help for the progresses made in this direction. Moon and other celestial bodies or in general the whole of outer space is not owned by a single state or a single person. International laws consider it as owned by the whole of human race. It is a fact that the world in the present form is divided in so many facts as to political ideology, economic facts, technological discrepancies etc. In the current form, nation states are competing with each other in all sense and unity as a human race has its lowest esteem. In the current format, a blanket concept of sharing all the profit and outcome of a space exploration with whole mankind does not sound realistic.

The current deadlock or confusion about the legal rules with respect to space exploration can only be over come by scrutinizing the factors such as the doctrine of 'common heritage of mankind', concepts of property rights etc. For an increase of private participation in exploration or advancement in the space technology, there is a need to clear this cloud of doubt as to the rights and duties of the participants of the exploration.

The paper first check the concept of common heritage of mankind with a detailed examination of the concept of 'mankind' and what all interpretation is possible in view of the space treaties and commercial activities. Next is to interpret or formulate the concept of property right in outer space. There are several reasons why the concept of property right is not specifically stated in any of the outer space treaties. But, with the onslaught of commercial players there is a need to define the concept of property right and the ambit of the wording of property right or in short rights in outer space.

A legal system that can accept and help in the progress of humankind to face the future, which also look after all sections of mankind is the need of hour. For this, international law need to move forward from where it was stuck after the Moon Agreement to acknowledge the technological advancement and the reality of private players, and at the same time making sure that benefits from the exploration of outer space would be mitigated to the societies which unfortunately does not have the technology to step forward by them self to reach outer space. Such a legal system is not easy in any sense, but by interpreting and formulating rule with all players in mind and with the support of the basic legal principles, our society would be able to reach that goal. Hence we need to first interpret some of the basic concepts.

"Common heritage of mankind" - legal interpretation

The doctrine of common heritage of mankind can be seen from the words of the great sixteenth/seventeenth century legal scholar Grotius who first defined the doctrine as

> "God himself says 'speaking through the voice of nature' inasmuch as it is not His will to have Nature supply every place with all the necessaries of life; He ordains that some nations excel in one art and others in another. ... So by the decree of divine justice it was brought about that one people should supply the needs of another."

From the above mentioned words it can be seen that the general doctrine derive from the notion that the air we breathe, the natural energy of the earth, the natural resources of land and sea, our gene pool, which makes a single but diverse family of humans. This human heritage includes many other attributes of nature which are or ought to be shared universally and equitably throughout the earth.

The application of the doctrine of "common heritage of mankind" can be seen in some of the international treaties that were formed in the last century. Control of resource use and sharing of potential revenues from the global commons have been the focal points in extensions that have been made of the common heritage principle to outer space, to the Moon, and to Antarctica.

The General Assembly Committee on Peaceful Uses of the Sea-Bed which adopted resolution 2749 of 17th December, 1970 with 108 votes and 14 abstentions, incorporated the principle of "common heritage of mankind". It included the wordings such as: (i) the area shall not be subject to appropriation by States or by natural or legal persons, (ii) an international regime should be created to govern the management of the natural resources and (iii) the area shall be open to use for exclusively peaceful purposes[1].

In the same manner the doctrine of "common heritage of mankind" is postulated in the United Nations Law of the Sea Convention of 1982 which enshrines a collective means of exploring and exploiting resources of the sea-bed, which can be taken as a guiding principle for development in other areas of international law such as outer space.

Before looking into the effect of the doctrine, there is a need to define and interpret the meaning of this doctrine in the contest of the space treaties and other

treaties which envisages this doctrine. According to the Vienna Convention on the Law of Treaties (1969) a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.

Looking at the wording of the doctrine, the interpretation of the concept of 'mankind' is somewhat vague and is not clearly defined in any international treaties. The usage of 'mankind' is seen in several international instruments, such as, the Preamble of the U.N. Charter, Preamble of the North Atlantic Treaty (1959), the Treaty on the Non-Proliferation of Nuclear Weapons (1968) and especially in the, U.N. Convention on the Law of the Sea (1982), Moon Agreement (1979)etc[ii].

Through these above mentioned legal instruments a new concept namely, 'mankind' was formulated. This point was described during COPUOS Legal Subcommittee[iii] as "the international community from now on has recognized the existence of a new subject of international law namely Mankind itself, and has created a *jus commune humanitatis*". It is also asserted that "for the first time in history, mankind was recognized in positive law by the international legal order as a subject of this order considering mankind as the main beneficiary of the results of the research, exploring and use of outer space[iv].

Even though 'mankind' has been granted the right to receive the yields of the Outer-space or deep-sea, there is an absence of an institution to claim or represent 'mankind' as a whole, above the boundaries of the concept of state. In this regards S. Gorove put forward the question as to how could one state or group of states or an international organisation be a spokesman or representative, of all mankind without some formal act of authorization or mandate involving such representation?[v] In the same manner it is a valid argument that, every subject of international law must have an organ competent to represent it in the international relation[vi]s. There does not exist any such organ representing the mankind as a whole[vii].

It can be argued that, the subject matter of an international law or for that matter even municipal law should bear equal weight of rights and duties. A concept such as 'mankind', hardly bear any right or duty in the present international legal order. The term mankind speaking strictly legally is in fact conventional, since mankind is not an independent subject of international law with its rights and obligations[viii].

The above argument clearly shows that mankind is not yet institutionalized and as such it remains only a philosophical concept in the actual stage of human progress[ix]. Mankind, the subject of international law does not have the ability to enforce rights attributed to it and hence, cannot be considered as a subject of international legal order. This passive legal personality is considered as *contradictio in adjecto* – self contradiction[x].

The interpretation of the doctrine shows that the concept is more of philosophical than a water tight legal norm. The concept derived from the feeling that irrespective of the development of the society all human being have a right to the resources of this universe and the future generations also have a right to enjoy these resources. This is described in the wording, "...each generation receives a natural and cultural legacy in trust from previous generations and holds it in trust for future generations. This relationship imposes upon each generation certain planetary obligation to conserve the natural and cultural resources base for future generations and also gives each generation certain planetary rights as beneficiaries of the trust to benefit from the legacy of their ancestors"[xi].

Even with all these limitations, the concept of "Common heritage of mankind" has been included in several international treaties. The Convention on the Law of the Sea of 1982 (Part IX, Article 136) declares that the seabed and ocean-floor and the subsoil thereof... as

well the resources of the area are Common heritage of Mankind. In the same manner, general clause of Article XI of the Moon Agreement lays down that the Moon and its natural resources are Common heritage of mankind[xii].

The extreme argument with respect to Common heritage of mankind is that, "The principle is embodied in many legal instruments, treaties and resolutions and explicitly or tacitly recognized by state practice, which is evidence of the existence of a general consensus *together with the conviction of its nature as jus cogens*"[xiii]. This argument is somewhat way out of reality when we consider that the Moon Agreement have only been ratified by very few countries in the world.

The concept is conceived to act as a balance between the developed nations and developing nations where there is a huge gap in technology and to make sure that the benefits of the resources of this universe will be equally shared irrespective of where a human being is born. This is expressed by Professor A. A. Cocca, "it is an ethical norm and essential for survival *rather than a compulsory rule by force of law...* a symbol of harmony, progress, friendship, understanding and peace."[xiv]

Outer Space and the concept of Property rights

As more and more space launch and deep space exploration are happening, there is a need to check the meaning of the property right in outer space in the light of outer space treaties and the concept of 'common heritage of mankind'.

Article II of The Treaty on Principle Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies, states that, "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use of occupation, or by other means"[xv].

Articles II, VIII and IX taken together show the ambit of private activities at the international level: (1) Space object occupy location on a first-come, first serve basis; (2) Nations have jurisdiction over space facilities and all personnel in or near the facility, irrespective of nationality; (3) Personnel have the right to conduct their activities without the harmful interference of other states; (4) Although entities may not claim ownership of mineral resources "in place", once they have been removed (i.e. mined) then they are subject to ownership; and (5) Jurisdiction (and any rights with respect to a given area) cease when a facility is returned to Earth, destroyed or abandoned or when activity is halted outside a facility[xvi].

It would be interesting to check why restriction was imposed on appropriation of outer space property by sovereign states. The four principle reasons for imposing those restriction were: (1) to prevent armed conflict; (2) to ensure free access to all areas of outer space; (3) difficulty for states to delineate boundaries in outer space; and (4) to enhance national pride, prestige and influence[xvii]. The principle of territorial sovereignty means continuous and peaceful display of state authority over a territory. The word 'peaceful' generally means establishing and maintaining military control over territory. The history of human civilisation have shown that claim to territory and permitted national claim of territorial sovereignty have always been associated with armed conflict. The second reason is associated with the issue of free access to all the outer space areas. This freedom will give all countries equal opportunity to access and explore the outer space and will reduce the risk of one country claiming celestial bodies on the first-come basis. The third reason for imposing restriction on territorial sovereignty is due to the fact that it is very difficult to delineate boundaries in the outer space celestial bodies. Finally, during the negotiation process of Outer space treaty, U.S.A. and U.S.S.R (Russia) was keen to show the newly independent colonies the distrust of imperialism and overturn the

model colonialism and enhance national pride[xviii].

One issue that may be considered is whether Satellite and man made space objects can be considered a "real property"? In this regard, the answer is quite simple in view of Article VII of the Outer Space Treaty and the Liability Convention[xix] that the State party to the treaty that launches the object into Outer space, is internationally liable for damages to another state party to the treaty or to its natural or juridical persons by such object or its component parts on earth, in air space or in outer space, including the Moon and other celestial bodies. Hence, it is clear that satellite or any space object originated from earth is attached as real property to the country from where it is launched. The space object originated from earth includes, launch payloads, and launch vehicle, component parts or both, and vehicles or facilities constructed in outer space or on celestial bodies. This gives rise to two type of property in Outer Space, (1) Objects that originated from earth and (2) All other celestial bodies.

Here, we are looking into the concept of property right of celestial bodies which did not originate from earth. Resources appropriation and real property right in outer space are areas where territorial sovereignty cannot be assigned in view of the doctrine of 'common heritage of mankind'. This concept of distributing the right to whole humankind is envisaged in Moon treaty, the law of sea treaty and the protocol on Environmental Protection to the Antarctic Treaty. To examine the Property right of celestial bodies, it will be helpful to check how the doctrine of 'common heritage of mankind' is embodied in the Law of Sea Treaty and Protocol on Environment Protection to the Antarctic Treaty. In the case of Law of Sea Treaty, like Moon Treaty, underdeveloped nations wanted to share the benefits derived from the resources procured, even though they lacked the required technology or financial investment to unilaterally carry on their exploration mission. In contrast to this, the protocol on Environment Protection to the Antarctic Treaty, the confrontation was between environmental protection and developmental interests[xx].

With the concept of common heritage of mankind incorporated in Moon Agreement and article II of outer space treaty prohibit any national appropriation of outer space. Even though National appropriation of outer space is controlled by way of outer space treaty, States are liable and in charge of its own facilities in outer space and the area surrounding those facilities. Article VI of the outer space treaty states that, "States parties to the treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities..." Hence, sovereign states have a duty to control and supervise the Private outer-space activities which are registered under its registry or who holds the nationality of the private player.

Inspecting territorial property right of outer space in the context of traditional legal systems give two different interpretations in view of 1. Common law system and 2. Civil law system. The common law System of title has its roots in feudal law. Under this Legal system the Crown holds the ultimate title to all lands, and the proprietary rights of the subject are explained in terms of vassalage. Thus, common law nations which are parties to the Outer Space Treaty cannot confer real property rights on private entities because Article II would prohibit them from claiming territorial sovereignty. Civil law, on the other hand, is derived from Roman law, which distinguishes between property and sovereignty. Under this theory it is possible for property to exist in the absence of territorial sovereignty[xxi].

Within the ambit of the Article VIII of Outer Space Treaty, there is also new concept as to limited property rights. Article VIII permits states to pass laws and regulate the activities of private entities under their jurisdiction; it is possible for states to unilaterally

implement a system of limited property rights which would not constitute a violation of the provisions of the Outer Space Treaty. As per this concept, private entities require to maintain a facility (and/or conduct certain activities) in a fixed location, for a specified period of time (e.g. one to five years) in order to perfect property rights[xxii]. The states which implement a property rights regime could include a reciprocity provision in their property laws, which would provide for recognition of the property rights of entities under the jurisdiction of states that enact similar property laws which also contain a reciprocity provision[xxiii]. As this concept is based on Article VIII of the Outer Space Treaty, it would not violate Article II of Outer Space Treaty as to territorial sovereignty.

Common heritage of mankind in the wake of commercial use of moon and other celestial bodies

The Outer Space Treaty, 1967 seeks to keep Outer Space free for exploration by all States while protecting celestial bodies from national sovereignty. The Treaty permits private enterprises to use space for peaceful purposes if their activities and results are made public. The responsibility for all launches is borne by the State. In the same line of thought, Moon Agreement of 1979, designate outer space as the "common heritage of mankind". Article I of the Outer Space Treaty states that, the exploration and use of outer space, including the Moon and other Celestial bodies, shall be carried out for the benefit and interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Before scrutinizing the Space treaties, the paper will examine the consequence of the use of the "common heritage of humankind" doctrine in the Treaty of Seas[xxiv]. In the same manner as Outer Space, the doctrine of common heritage of mankind was used in the Sea Treaties and commercial activities, like; deep-sea mining can act as an analogue to commercial activity in outer space.

Just like outer space, there is a legal vacuum in deep-sea mining. One theory promulgates that if there is an instance that is not covered existing international law, and then the effected state is free to formulate rules to meet the problem thus created. The doctrine of 'common heritage of mankind' is a refinement of the principle of Grotius', *res communis* of the high seas. In the treaties of seas, there is a reformulation of Grotian res communis principle as ocean as a collective resource of the world community, may be used freely for any purpose, provided such use does not impair the interest of other users[xxv]. When there is impairment to other users, there is a need for a regulation, express or implied, by the international community. It can be argued that there is no right under customary international law for states to make unilateral claims to a right to explore and exploit resources of the sea-bed in the high seas.

From the treaty of seas and the embedded doctrine of 'common heritage of mankind' several postulates can be formulated as to:

(a) "Unless prohibited by international agreement, a state may engage, or authorise any person to engage, in activities of exploration for and exploitation of the mineral resources of that area, provided that such activities are conducted
    (i) Without claiming or exercising sovereignty or sovereign or exclusion rights in part of that area, and
    (ii) With reasonable regard for the rights of other states or persons to engage in similar activities and to exercise the freedom of the high seas;
(b) Minerals extracted in accordance with paragraph (a) become the property of the mining state or person"[xxvi].

Furthermore, if the doctrine of 'common heritage of mankind' is not considered as

jus cogens, countries can interpret treaty laws to alter their position in international law and thereby, with the help of Continental Shelf Convention, 1958 use the argument of exploitability test and can make a claim of the part of its continental shelf. This outcome will be prejudicial to the interests of the developing countries which lack the advanced technology to exploit resources from deep sea-bed[xxvii].

Different probability that could transpire with the use of doctrine of 'common heritage of mankind' in the treaty of seas can act as an analogue for the future commercialisation of moon and other celestial bodies.

In view of Article XI of the Moon Agreement, 1979, moon and its natural resources are the common heritage of mankind. The treaty was meant for redistribution of income obtained from resource appropriation, requiring the appropriating states to share the profits of such activities with non space-faring nations.

The Moon Agreement also prohibited all forms of property rights. Most space-faring nations found such provisions unacceptable. This brings out the conflicting sections as to space-faring and non space-faring nations. The non space-faring nations have a genuine doubt as to whether most of the resources would be appropriated by the space faring nations before they acquire the necessary technology to gain access to outer space. These factors need to be addressed while appraising the commercial use of moon or other celestial bodies.

Moon Agreement has been ratified only by nine countries where as Outer Space treaty has been ratified by more than ninety countries. Even though only five signatories is the minimum requirement to validate a treaty as an international instrument by UN agreement, the absence of the main space faring nations as signatories of the Moon Treaty, make it somewhat name sake treaty.

Article XI of the Moon Agreement clearly explain the ambit of state appropriation and dictate the formation of an international regime for the purpose of: 1. the orderly and safe development of the natural resources of the moon; 2. the rational management of those resources; 3. the expansion of opportunity in the use of those resources; and 4. an equitable sharing by all state parties in the benefit derived from those resources. This article clearly brings out the full meaning of the doctrine of 'common heritage of mankind' to an international regime to make it accountable for all the commercial activities in outer space.

From Article XI of the Moon Agreement, it is clear that it does not put a moratorium on exploration on natural resources on moon. It only seeks to establish an international regime to monitor and control the exploration and to make sure that the outcome of the exploration should be shared equitably with the non space-faring nations. The sharing of proceeds of the exploration need to be defined more clearly as, it put a lot of burden and risk factor on the private investor to move forward for outer space exploration[xxviii].

Analysing generally the commercial activities in outer space, it is evident that there is already lot of commercial activities happening in outer space. In 1975, during the joint Apollo-Soyuz space mission successfully separated urokinase, an enzyme from the kidney cell culture at six times the efficiency level that was achieved on Earth. This experiment showed that the cost of the production can be reduced from $1,500 per dose to $100 per dose, on full production on board a space shuttle of Space Lab. In August 30, 1984, a McDonnell Douglas Astronautics Company Scientist used a process called continuous flow electrophoresis to separate molecules by means of electrical field to process Pharmaceuticals onboard the Space Shuttle Discovery. The gravity free environment in outer space lead to molecular separation increase by a factor of 700 and purity levels quadrupled. There are several such examples which show the

commercial benefit of going to Outer Space[xxix].

Commercial activity in Outer Space will move to fast track if mineralogical discoveries would be made on distant planets and asteroids. Numerous companies from several countries are involved in multifarious commercial space activities. Along with actual space probing companies there are numerous support service companies, like insurance and ground support on earth. In future more and more countries and private companies will be equipped with launch service to low orbit as well as deep space exploration, increasing the contentious nature of commercial exploration of outer space. Hence, there is a very high need to clarify the ambiguities in the space treaties and clearly sort out the legal confusion.

The present international community is a mix of high-tech societies and undeveloped societies. Article I of the Outer Space Treaty states that, "The exploration and use of Outer Space, including moon and other celestial bodies...in the interests of *all countries,* ...shall be the province of *all mankind*". These wording are not part of the preamble, but, the first article of the outer space treaty showing the importance of the provision and that the state parties to the treaty confirm to the common interest of all mankind in space exploration. Thereby common interest of mankind has the full binding force of International law. Hence, the exploration and use of outer space whether by a state or a private company is a global activity and exploration of outer space carried with out the interest of *all countries* or not for the province of *all mankind* will be a clear breach of treaty obligation. Even if, Article I integrated all type of space activities, in reality, most of the space activity is for the benefit for a particular nation or group of nations. There has been a silent consent to all those activities and Article I felled victim to a continuous *desuetude* by the interstate practice[xxx].

One of the main factors for the generally non acceptance of the Moon Agreement could be the fear that the clauses as to sharing of profit with out clear definition would adversely effect the economic benefit that might derive from the outer space activity and will increase the risk factor for investment. It also needs to be scrutinized as to profit-oriented commercial use of moon and other celestial bodies are carried out in the interest of all countries. Even though all the country specific outer space activity transpired with no lineage to 'interest of all countries', those activities have indirectly contributed to the general progress and development and life of human beings in general.

The International legal order for outer space activities particularly, in the wake of commercial use of moon and other celestial bodies' lags behind the technological achievements. The present legal order is acting as a constraining force for the progress to technological achievements than to support and act as a catalyst for human progress. All the discrepancy can only solved only by a utopian condition where there is a moral and political unity of mankind. There need to be a balance between the economic benefit that can be achieved by commercial use of moon and other celestial bodies and the sharing of profit or product to the whole of humankind.

Concluding Thought

After scrutinizing the concept that are important for space exploration, it can be seen that one of the main tussle is between the space-faring nations which have the technology to advance into space exploration and non space-faring nations which does not have the technology, but expect to benefit from the exploration as outer space is owned by the h*umankind.* Even though Outer Space Treaty through Article I states that all the activities in outer space need to be done for the benefits of all countries irrespective of their economic or technological excellence and generally for all of mankind, when it came to Moon Agreement, which explained in details the distribution of

benefit clause and control of the activities of all countries in space, the outfit of supporters for Moon agreement was negligibly small.

This rejection by space faring nations shows that the interpretation of the common benefit clause can only act as an impediment for the progress of space legal fraternity. If a doctrine is not accepted by nation states, it can only help in increasing confusion and reduce the pace of human advancement in that field. There is a need to define the concepts and with the help of precedence from the treaty of seas, renegotiate or reinterpret the concept to make it acceptable to all players.

With the increase of commercial activities in outer space and more nations are getting the capability to send satellites and getting ready for space exploration, the legal system should move forward to help the players to clarify their rights, duties and risk factors. Every activity in this world is controlled by one or another rule defined by the legal system concerned to that system. Hence, with the advancement of technology, the law should be remodelling itself to accept the advancement and to help solve the new issues.

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