

Legal Implications of Commercialization of Outer Space

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Abstract: Ever since the first Sputnik 1 was launched on 1957 by the Soviets, space exploration has been an adventurous prospect for mankind. From satellites, to manned missions to International Space stations, space exploration has been constantly growing and expanding. However, unlike the past, space exploration is no longer limited to the State Governments. With the increase in private companies like Space X, Virgin galactic etc., all investing on commercialization of space, we need to understand the legal implications of such increased privatization especially in relation to property rights of these companies.. Also, whether international laws and regulations are apt in supporting such new found space activities. Thus in this article I, shall be discussing on the present international laws that govern the outer space activities of States and their relevance. I shall focus on how the commercialization of space is going to create various legal complications on the concept of rights and duties of the State and how such commercialization of space is going to change the fundamental concept of 'non-appropriation' and 'res communis'.

Keywords: commercialization, outer space, international laws, res communis, IPR

1. Introduction

“Law followed man in his journey through time and space. Law moved with man through his adventure on land, air and sea. Law followed man in his explorations when he crossed oceans and landed on new shores” [1]. With every new discovery and inventions, gave birth to new rules, which extended protection to humans and regulated their activities. Starting from Europe where the Vikings, Columbus in the north, and Vasco da Gama in the south opened the great sea routes, humans explored the globe in search for new transport routes for trade and colonization [2]. Century’s later man embarked his journey in a new frontier that is air and space [3], which would change the outlook of humanity and possibly turn out to be the biggest achievement in the history of mankind. The era of space exploration began on October 4, 1957, when the Soviet Union launched Earth's first artificial satellite, Sputnik 1 [4]. Prior to Sputnik, the legal position of outer space was uncertain. However, the United Nations stepped in to establish the *United Nations Committee on Peaceful Uses of Outer Space (COPUOS)* through General Assembly resolution 1348 (XIII) [5] to govern the peaceful use and exploration of outer space and international cooperation. It maintains close contact with governmental and non-governmental organizations concerned with outer space activities. It also aims at providing and exchanging information relating to outer space activities and assisting in the study of measures to promote these activities.

Role of United Nations in Shaping Outer Space Law

The term “space law” refers to the body of international and national laws and customs that govern human activities in outer space. From the earliest days the UN recognized the importance of space – related technologies in improving the conditions of humans throughout the globe. After the establishment of COPUOS in 1959 [6], it remains the only committee till date to exclusively deal with peaceful cooperation of outer space activities and to act as a forum to discuss developments related to outer space exploration, technical advancement of space exploration, geopolitical changes, and the evolving use of space science and technology for sustainable development. The United Nations

Office for Outer Space Affairs (UNOOSA), was established in 1962 to support the work of the Committee and implement a multifaceted programme that covers the legal, scientific and political aspects of space-related activities.

Present International Treaties on Outer Space Activities:

Inspired by the great prospects opening up before mankind as a result of man’s entry into outer space[7], recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purpose and believing that the exploration and use of outer space should be carried on for the benefit of all people irrespective of the degree of their economic or scientific development, [8] the first international treaty on outer space was opened for signature on January 27, 1967 which entered into force on 10 October, 1967. This treaty was known as;

- 1) **Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ‘commonly known as the (hereinafter: “Outer Space Treaty”)** This treaty is the foundational instrument of the outer space legal regime [9]. The Outer Space Treaty established a series of broad principles that have been elaborated and implemented in a series of subsequent international treaties and national laws. The main principle which it talks about is that exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind, Outer space and celestial bodies are free for exploration and use by all States and Outer space and celestial bodies are not subject to national appropriation. This means this treaty makes outer space and celestial bodies everyone’s property and no one country or individual can make a claim on it.
- 2) **The 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space,** provides that States shall take all possible steps to rescue and assist astronauts in distress and promptly return them to the launching State, and that States shall, upon request, provide assistance to launching States in recovering space objects that return to Earth outside the territory of the Launching State.

- 3) **The 1972 Convention on International Liability for Damage Caused by Space Objects**, was established pursuant to article 7 of the Outer Space Treaty which stated “ each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State party from whose territory or facility an object is launched, is internationally liable for damage to another State party to the treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air or in outer space, including the moon and other celestial bodies”. [10]
- 4) **The 1975 Convention on Registration of Objects Launched into Outer Space**, In the light of Outer Space Treaty, this convention was held to make provision for the national registration by launching States of space objects launched into outer space and that a central register of objects launched into outer space be established and maintained, on a mandatory basis by the Secretary-General of the United Nations. [11]
- 5) **The 1979 Agreement Governing the Activities of States on the Moon and other Celestial Bodies” commonly known as the “Moon Treaty”(hereinafter: “Moon Treaty”)**, The Moon agreement reaffirms many of the provisions of the Outer Space Treaty as applied to the Moon and other celestial bodies, providing that those bodies should be exclusively used for peaceful purposes, that their environment should not be disrupted and that the UN should be informed of the location and purpose of any station established on those bodies. This agreement also provides that the Moon and its natural resources are the common heritage of mankind and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to take place. [12]

Legal implication of commercialization and privatization of space:

When humans first launched the Sputnik, followed by the Apollo mission, space activities were thought to be restricted only to the government or be State centric. The cost of getting involved in space activity was essentially a reason why it was believed only States could afford it, and so the possibility of private company’s involvement was never even a question. With this perception the treaties on space activities were also formulated accordingly keeping in mind only the State involvement. No one anticipated that someday private players would be venturing into space exploration or partnering up with the government in facilitating space activities. With the legalization of privatization of space activity, a new door has opened in the realm of international law. Thus privatization of outer space is the involvement of private sector engaging in space activities, which were earlier done only by the State. Different emerging activities like space tourism, space transportation, space research, exploitation of space resources and human habitation in outer space are new ventures where in private companies are indulging in to expand the horizon of space activities for commercial uses. No longer does space activities include just space exploration for scientific purposes only by the State authorities. Private companies like SpaceX, Virgin Galactic,

Blue origin, are now extending their investment on space projects promising the world of something that we have only imagined or watched in movies. While all this may sound interesting, many agree that commercialization of outer space will open a plethora of legal issues which at the moment has been rarely discussed. With the shift from State oriented space activities to private sector oriented space activities, questions are posed on the adequacy of present space treaties to regulate new trends in space activities. Though some states have resorted to national space legislation to fill in the existing void, such efforts are minimum and scattered [13]. Thus the main question to be answered today is what are the legal implications of privatization of outer space activities?

Space tourism

There is a race among competitors for early introduction of regular space flights. Thus companies like Blue Origin, SpaceX and Virgin Galactic have been testing their rockets for achieving safe, reusable and cost effective spacecrafts. Space tourism would cover two major activities- space transportation and space hospitality- and each of these would need specific rules to regulate and govern their operation. Space travel commands safety of the passengers and no regulatory norms exist yet. [14] With the existing space law regime comprising of only few international conventions, few non obligatory guidelines, scant national laws and very scarce space jurisprudence which involves only State space practices, private corporations are nowhere in the legal regime. Moreover the existing laws does not allow for private realty rights and claims of private companies on celestial objects.

Rights in space inventions

With the increase emphasis on space activities, establishment of ISS and future plans to establish more of such stations in outer space and celestial bodies, space inventions are bound to happen in future. Researches are going on in outer space to find cure for many diseases. [15] These researches may lead to discovery of various objects or even give birth to inventions. As such, it brings forward several questions relating to patent rights in outer space inventions. In light of the patent system which speaks about monopoly right, outer space treaties speak about common rights in outer space. Thus the first question in the field of outer space inventions would be, whether a monopoly right like the patent right be granted for an invention conducted with the help of common resource like outer space? [16] With the expansion of patent right system at present, its branches are spreading to living organisms as well. Thus, despite the arguments against monopoly of rights in outer space inventions, granting of such rights is inevitable. [17] In the absence of patent rights, investments in the space inventions would dry up, resulting in standstill in intellectual creations.

Issue of property rights

In the recent years, the world community has been experiencing very bizarre property claims of the moon and other celestial bodies by private individuals. People like Dennis Hope [18] have even started sale of property on moon and other celestial bodies. The website claims that approximately 675 very well-known celebrities and three

former Presidents of the United States of America are now extra-terrestrial property owners and claim that the Lunar Embassy are the only recognized world authority for the sale of lunar and other planetary real estate (including Mars) in the known solar system. [19] This is very thought provoking as the OST [20] prohibits national appropriation of moon and celestial bodies. This means that there can be no right to property on celestial bodies. However, the justification, which these property holders or sellers give in their defence, is that the OST prohibits only national appropriation and not individual appropriation. [21] However, this is not an accurate contention, since neither under civil law or common law such claims can be entertained. [22] Under common law system, State owns the entire territory and private property rights are conferred to the individuals by the State. Since under the OST, States are barred from claiming property rights over the moon and other celestial bodies, they cannot give title to their individuals. [23] In the civil law system also, property rights are conferred on the individuals who occupy and develop an area that does not belong to anyone else (res nullius). However, the moon and other celestial bodies are not res nullius, rather accepted as province of all mankind. Thus, an individual from civil law is also debarred from establishing any property rights over moon and other celestial bodies. Moreover, if property rights were to be given to individuals in outer space, it would go against the very nature of outer space treaties, which talks about common rights.

Issue of liability

With the introduction of private space activities, the issue of who is going to be liable for the damage caused by the private space activities is of the biggest concern today. The space treaties provide for the liability of launching state for any damages caused by space activities. However, with the absence of a separate liability regime governing space activities, States are burdened with the liability for any damage caused by private players. This would be very problematic for the States as they would be liable for something, which they did not do. Thus the States now want to device a mechanism to shift the liability back to the private companies who are causing the damage in the first place. Therefore search for such mechanism has led to establishment of space insurance as a pre-requisite for grant of license to carry on private space activities.

2. Conclusion

Therefore we see that the nature and scope of space activities are changing at an alarming rate. With the growing technology, use of space has started to include commercial activity rather than just space exploration for scientific purpose by State agencies. Introduction of private entities in the area of space exploration has given rise to several legal concerns to the international community. Since privatization of space is still a new concept, however the developments in such private space activities are increasing at a rapid stage while the regulatory framework to check such activities are still lagging behind. Hence, it is now time to seriously consider the consequences of such space activities and how to regulate them. Also, the present international space laws, which were established mostly keeping in mind the State activity needs serious revision. Thus the present space law

treaties need reconsideration given the present change in space activities.

References

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- [16] Bhat, (n 13)
- [17] Ibid
- [18] See <<http://lunarembassy.com/>>, accessed on 1st February, 2018 *A declaration of ownership was filed with the United Nations as well as the US and Russian governments in 1980 by Mr. Dennis M. Hope of the Lunar Embassy, to ensure that a legal basis for the ownership of the properties sold can be claimed. On that day in 1980, the Lunar Embassy was born. In 1996, they opened the first web site, the Moon Shop, which was the first Internet website ever, to be selling properties on any extra terrestrial body.
- [19] Ibid
- [20] *The Outer Space Treaty, Article II: 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 buy any other means.

[21] Bhat,

[22] Ibid

[23] Ibid