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Space Law – Evolvement In The 21st Century And Its Effects on India And Foreign Nations

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ABSTRACT

Space Law is something that has been lacking in the Indian context for quite a long time and its mainly rooted in a set of United Nations (U.N.) Treaties meditated between the 1960s and 1970s but most of these space issues have been resolved by various means such as diplomatic means etc hardly any issues have been solved by the national and international courts this has led to many complicated problems which need a speedy resolution which can only occur if the matters are discussed by world leaders extensively with prominent lawyers around the globe not solving this issues does add risk to business and various government decisions one particular of them is shifting of space schemes from the government to the private industrialist which is going to create new challenges for space law. This research will review some of the domains of space law that need to evolve in the 21st century.

Keywords: Current Space Law, Shift to private ventures, the 1960s and 1970s treaties, Speedy resolution, need for the evolvement of space law.

Introduction

In the year 1961 Yuri Gagarin from the erstwhile soviet union landed in space and was the first person to do so from then we have come a long way and so does our involvement with space. Various treaties have been formed regarding the Earth's atmosphere and laws mentioned the sovereignty of each country but this critical core idea is missing in outer space. No countries have clear sovereignty over outer space and most agreements and laws don't even mention where outer space starts and ends. One of the most important international treaties regarding space is the "Treaty on the Principles of the Exploration and Use of Outer Space Activities of Nations, Including the Moon and Other Celestial Bodies" which was signed on 27 January 1967 following these same four important international treaties: "The Astronaut Agreement (22 April 1968)", "International Responsibility for Harm to Space Objects (29 March 1972)", "Registration of Space Object Launched in Space (14 January 1975)", "Agreement regulating the activities of States on the Moon and Other Celestial Bodies (18 December 1979)" was signed. All these treaties laid down crucial principles such as the responsible use of space, the right to explore space, non – exploitation of space, safety, and precautions for astronauts, permission to do space operations by private ventures, etc. this has been the legal framework that has been followed for years regarding outer space but in this new modern time new issues are arising which cannot fall under the existing legal framework of space law as there has been a rising demand for a new framework which will include the issues of private ventures in space, application of Domestic and International law, the safety of space tourists, the rise of space military operations, rise of space debris.

A. Rising Involvement Of Private Ventures In Outer Space Activities

Gone are the days when outer space was under the supervision of government entities. Many private sectors like SpaceEx have made their mark in outer space and are launching various operations which are not under government supervision which is leading to the rising risk of initiatives that disregard or infringe on various international space treaties. This problem can only be solved through a different approach in space law and buttresses the need for regulations to keep up with the current dynamic scenario as most of the treaties recognized states in the usage of outer space, not private

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ventures. Nonetheless, the most crucial regulation of private entities is mentioned in "Article. VI" of the "Outer Space Treaty" which states that " State Parties to the Treaty have international responsibility for national outer space activities, whether carried out by government agencies or non-governmental entities and the appropriate state is responsible for supervising all non-governmental entities activities".through this article VI a dual structure where private entities are allowed to venture in outer space but the obligation remains with respective governments. That doesn't mean that private ventures in outer space only have negative effects. Research shows that most countries in the world are looking for private investment in the space industry the reasons are as follows

1. **Positive Effects of Private Ventures in Outer Space:**

- The rise in demand – there has been an increasing demand for outer space activities which cannot be undertaken proficiently by government entities alone hence, the private sector would play a pivotal role in controlling demand.
- Growth of Outer Space – participation of private players will help in the growth of the outer space industry which in turn will lead to more space operations, job growth, etc.
- Resource availability – the present resources are finite in nature involving the private sector will open a new pool of resources and bring more funding and experience into space exploration activities.
- Risk Assessment - Every operation comes with a risk, and the private sector helps in sharing the cost of risk of capital factor, failure cost, and also with the increase in private sector involvement reduces risks due to an increase in human capital and mind.

B. The Mounting Problems Of Space Debris

Since the launch of the first artificial satellite "Sputnik 1" into orbit in the year 1957 space debris started accumulating in orbital space and its continuing till today. It consists of obsolete satellites, parts lost during a space vehicle launch, etc not only does space debris pollutes space but it also poses a threat to operational satellites, a navigational threat. Recent data provide an insight that 600,000 orbiting objects are orbiting in earth's orbit which is going raise the possibility of pollution in outer space. However, neither the UN Space treaties nor the current framework of space law deals with the issue of space debris efficiently this ineptness emerges due to confusion regarding the responsibility in the event of space debris damage and the lack of a legally enforceable treaty. According to the "Liability Convention of 1972 under Article VII – the launching state is responsible for damage caused to a space object or people or property on board of some other state". This leads to two crucial questions "Who will be held negligent?" as negligence is elusive to prove because space traffic laws do not exist methodically and another question that rises is "Who will be held liable in majority cases?" because it's difficult to tell the origin of the majority of space debris. Another concern that arises is that there is no legally binding definition of space debris it's only generally agreed that objects ranging from small pieces to junk of satellite fall under space debris hence there is an urgent need to establish a legal definition of "Space Debris". Nonetheless, In 2009 'The space Debris Mitigation Guidelines of the Committee on the Peaceful Use of Outer Space' was implemented two key origins of Space Debris were distinguished : (i) Accidental and deliberate breakups and (ii) Debris emitted during the vehicle launch process. A total of seven clauses are included in the guidelines and differentiate between long-term and short-term initiatives. All these guidelines along with space traffic management are a requirement due to restricted maneuvering potential and their high speed. One of the potential solutions regarding space debris is to create legislation that will not prevent removing of space debris without permitting it to be considered illegal since the United Nations Space Treaties do not recognize the termination of jurisdiction and control of a

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space object another solution can be giving legal terms to all vague terms regarding space debris. Remediation can be another rational solution as it can use thermal power to decompose space debris. To summarize the preferable solution would be to address all legal questions regarding space law, and debris, and implement an International Treaty that binds all the Nations to form regulations and management of preventing space debris accumulation at all levels.

C. Future Possibility Of Mining Activities On The Moon And Other Celestial Bodies

Since time immemorial we have been exhausting natural resources on earth similarly there are resources in outer space that can be exploited and exhausted in the future. Their misuse runs counter to " Article II of the Treaty on Outer Space of 1967 which states that Outer Space, including the moon and other celestial bodies, is not subject to national appropriation by demand of sovereignty, by use or occupation, or by any other means." Not even private ventures can do an appropriation. But this did not stop the United States of America to implement the "Space Resource Discovery And Use Act of 2015" at the behest of private capitalists or Luxembourg to implement "The exploration and Use of Space Resources Act of July 2017". Both these acts paved the way for private ventures to exploit and commercialize celestial bodies. In their defense, they are pointing out the fact that the appropriation of a celestial body is prohibited not the usage of resources hence its legal. In addition, American Law expressly provides that the USA holds no possession of outer space, and Mining is safeguarded under the liberty of using outer space resources under "Article I of Outer Space Treaty". Recently study conducted by NASA said that the moon harbors more metals (such as iron and titanium) than it was previously believed this has certainly piqued the interest of aspiring moon miners and the US government has floated the idea of mining the moon. In 2020 the US government signed an executive order to encourage US companies to mine the moon and other celestial bodies even though it's strictly opposite to the "Moon Treaty of 1979" hence it's really important to discuss these situations in a live international forum and form some regulations for this mining activities one such idea which was visualized was that a registry should be created under the responsibility of UN General Secretary defining the nature and location of exploring and exploiting operations. Such an idea if implemented would therefore comply with the Moon Treaty of 1979.

D. The Moon Treaty And India

The Moon Treaty was signed in the year 1979 under resolution 34/68. The agreement reaffirms and elaborates on many provisions of the Outer Space Treaty as applied to the moon and other celestial bodies, Providing that those bodies should be used exclusively for peaceful purposes, that their environment should not be disrupted, that the United Nations should be informed of the location and purpose of any station established on those bodies. In addition, the Agreement 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 become feasible. Till now 18 states are parties to the treaty where 7 states have ratified the agreement and the rest acceded. India signed the Moon Treaty on 18 January 1982 and since then remained a member but has not ratified it

E. Space Law Legislation In India

Space law still has not garnered the attention it requires in India as a result of this India does not have its own Space Law yet. The government i.e, Indian Space Research Organisation (ISRO) has a monopoly over it. The Space Activities Bill 2017 was introduced by the government to implement some changes in terms of space policies in India and has been sent for further approvals, The space activities in India are entirely governed by the Department of Space since it was established in the year 1972 but recently it's changing as outer space is not seen

as a domestic issue as earlier nowadays it's an international issue. India never considered having a space law due to the following reasons: Firstly, earlier India did not have proper capitalist private ventures which could invest in the space sector but this is changing as on 18 November 2022 India launched Vikram – S a privately build rocket by Skyroot Aerospace. Secondly, India believed that it does not need its own space laws as it was already a party to many international outer space treaties. But at present times things are changing on June 2020 ISRO launched a new organization called "IN–SPACe (Indian National Space Promotion and Authorization Centre)" which will boost the commercialization of Indian outer space activities

Conclusion

As we all extend our reach into outer space, the need for systematic space laws regulating human activities becomes more significant day by day for both governments and the private sector. Hence The Outer Space Treaty plays a critical role in all this as its the cornerstone of all other frameworks of international space law. As more and more new challenges arises the need for systematic space exploration and exploitation increases. The commercial exploitation of outer space and space debris is one of the most critical issues facing the international community this will lead to new concerns such as property rights to outer space resources will rise in relevance. It's known that international cooperation is the key to peaceful activities and resource extraction in outer space not only do international laws need to be enacted and harmonized but it also applies to domestic laws and all this need to be done in a forum where every step is taken with efficient insights or all this general agreement may lead to the current structure falling apart.

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