



## SPACE LAW – SPATIAL ISSUES

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*“A hundred times every day I remind myself that my inner and outer life depend on the labors of other men, living and dead, and that I must exert myself in order to give in the same measure as I have received and am still receiving.”*

- Albert Einstein

### ABSTRACT

Space law is an area of the law that encompasses national and international law governing activities in outer space. It is pertinent to be noted that generally space law consists of two layers of laws and regulations. *The first layer in international law that regulates rights and obligations of States and Intergovernmental Organisations in outer space. And the second layer of the Space law is the national law itself.* The major legal framework of of space law is composed of five international treaties (namely- the Outer Space Treaty of 1967, the Rescue Agreement of 1968, the Liability Convention of 1971, the Registration Convention of 1976 and the Moon Agreement of 1979), and mainly the five sets of principles which are governing Space law (i.e. the declaration of legal principles of 1963, the principles governing television broadcasting of 1982, remote sensing of 1986, nuclear power sources of 1992, and international cooperation in outer space of 1996).

International lawyers have been unable to agree on a uniform definition of the term “outer space”. It has also well accepted that

outer space generally begins at the lowest altitude above sea level at which objects can orbit the Earth, approximately 100 km (62 miles). It is to be noted that space law began with the launch of the world’s first artificial satellite by the Soviet Union in October 1957. The Spacecraft named- Sputnik, (the satellite) was launched as part of the International Geophysical Year.

Space law also includes its own customary international laws. In the history of the development of space law, international treaties and customs plays a vital role , and been the primary sources of legally binding international law. The legal framework of Space law is still limited as it is unable to draw a full picture and capture its character. **First of all, as *lex specialis* of international law, space law has its own features.** As far as, it’s legal nature is concerned, Space law regulates the interests of the international community, thus containing obligations *erga omnes*. The Outer Space Treaty, which is credited as the Magna Carta of Outer Space, provides a general framework for the regulation of space-related activities. **The relationship between Space law and general International law is based on the maxim “*lex specialis derogat legi generali*”, space law shall prevail over general international law if there are specific regulations in space law.**

### INTRODUCTION

Outer Space is the area where the atmosphere of the earth ends. The aerial sovereignty of a state ends with the atmosphere from where the space area begins.

Launching the first sputnik by the U.S.S.R. on October 4,1957 accelerated the affinity with the outer space of earthly people. After



sputnik (first), few more states launched their satellites in the space which was a necessary call to the United Nations to regulate the space activity. The space exploration has brought the world together and the final outcome was the Space law, which can be understood as the Law which has been made to regulate the relations amongst the states and their relations with international organizations in the sphere of outer space, celestial bodies and moon. Scientific developments are indispensable, and undoubtedly necessary, at the same time legislations to regulate the scientific explorations are most wanted need of modern time. **Space Law can be understood as a unified approach of science and law.**

As there are dynamic additions in International Law. This Law is facing to multi-dimensional problems of the world society. The proper, balanced and sustainable management of global resources is the highest challenge today. With that introduction of the Private Space activities and their commercialization has hampered our ecosystem to be watched and seriously. So to keep a constant watch on ecology is also a big problem for lawyers and scientists. International law including Space law is much more concerned with the maintainence of global natural resources, rivers, oceans, forests, and agriculture, wild and sea life.

Relationship of living organisms and their peaceful adaptation to the environment is the main object of modern law.

The concept of Sovereignty should also be seen or understood from global welfare perspective. The exploitation of global resources- the common property, by the developed countries is also the main basis behind the space law. In fact the notion of sovereignty permits use of common property for only lawful and for peaceful purpose. It is not all related with the competence of a nation state. Every living being including human is a part of global ecological system- this is the fundamental principle on which the modern international law depends. Man must learn to live in harmony with nature rather to conquer it. The same view has also been supported by Professor Upendra Baxi.<sup>1</sup>

Regarding the secondary sources of law, according to Article 38 (1) of the Statute of the International Court of Justice<sup>2</sup>, no International Court decision has been rendered generating a new rule of Space Law. There is, however, literature that has elaborated many aspects of the relevant legal rules, upon which the development of Space Law could be founded. Even though, the 1903 was the year that the likelihood of establishing rules in outer space emerged<sup>3</sup>, the main body of Space law was promulgated

<sup>1</sup> Prof. Arun Kumar Sharma, Professor, Faculty of Law, Mody Institute of Technology & Science, (Deemed University) Lakshmanagarh.

<sup>2</sup> Article 38 (1) defines the sources of Public International Law by listing the sources that the ICJ uses to resolve disputes as follows:

- a) International conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
- b) International custom, as evidence of a general practice accepted as law;

- c) The general principles of law recognized by civilised nations;
- d) Subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations , as subsidiary means for the determination of rules of law."

<sup>3</sup> Tronchetti, F., 2013. *Fundamentals of Space Law and Policy*. 1<sup>st</sup> ed. New York and London : Springer Briefs in Space Development, pp. 3-5.



later on, following the appearance of new technologies, as well as the expansion of their space-related technologies in terrestrial applications.

### Joint efforts in the direction

Prior to first launch of sputnik on October 4, 1957, nobody thought Space Law. In 1958, the 'question of peaceful use of outer space' was considered by the United Nations<sup>4</sup>, its resolution recognised 'the common interest of mankind in outer space'. It was also resolved that the outer space shall be used for peaceful purposes only.

The United Nations adopted the resolution and established a committee on peaceful uses of outer space and it was the first major step of United Nations to fill up the legal vacuum in outer space.<sup>5</sup> Timely the urge for the Space Law gained momentum in International sphere and a series of treaties were entered through genuine and sincere efforts made by the U.N.O...

In December 1963, the U.N. General Assembly unanimously adopted a Declaration of Legal Principles Governing the Activities of State in the Exploration and use of Outer Space<sup>6</sup>. On December 19, 1966 The General Assembly through a resolution<sup>7</sup> adopted certain principles which are known as the Outer Space Treaty of 1967. It was a significant step in this direction.

### The Outer Space Treaty (1967)

<sup>4</sup> General Assembly Resolution 1348 (XII) Dated December 13, 1958.

<sup>5</sup> General Assembly Resolution 1472 (XIV) Dated December 12, 1959.

<sup>6</sup> General Assembly Resolution 1962 (XVIII) December 13, 1963.

<sup>7</sup> General Assembly Resolution 2222 (XXI) December 19, 1966.

The treaty can be termed as a milestone towards the establishment of a legal regime of outer space. The fundamental customary principles that most were devised by the Legal Sub-committee of the UNCOPUS are reflected and incorporated under OST. The main tenets of the treaty are:

- Freedom of exploration of Outer Space (art I).
- Non- Appropriation of Outer Space (art II).
- Use of Outer Space peacefully (art IV).
- International cooperation and assistance (art V).
- International Responsibilities for National Activities (art VI).

The treaty also provided for the basis and limitations for Space use and also a framework for a number of pacts between the nations.

- Rescue Agreement, 1968.<sup>8</sup>
- Liability Convention, 1971.<sup>9</sup>
- Registration Convention, 1974.<sup>10</sup>
- Moon Agreement, 1979.<sup>11</sup>

Instead of these, few more declarations were adopted by the General Assembly. All these efforts mandate the world nations to use Outer Space with mutual cooperation, and to make Space research a joint enterprise for the benefit of mankind.

### Outer Space

<sup>8</sup> General Assembly Resolution 2345 (XXII) Annex December 19, 1967.

<sup>9</sup> General Assembly Resolution 2777 (XXVI) Annex November 29, 1971.

<sup>10</sup> General Assembly Resolution 3233 (XXIX) Annex November 12, 1974.

<sup>11</sup> Signed on December 5, 1979.



The most widely accepted definition of the “edge of space” is 100 kilometers above the Earth’s surface (approximately 62 miles). That altitude is what known as the *Karman Line*, named for **Hungarian physicist and engineer Theodore von Karman**, who determined that aeronautics would no longer work at that altitude.

In simple words, it can be said that Outer Space does not begin at a definite altitude above the Earth’s surface. The Kamaran Line, an altitude of 100 km (62 miles) above sea level, is generally used as a start of outer space in space treaties and for aerospace. It is one of the fundamental question that from where the outer space begins, and the topic has been debated in UN for several decades, various approaches and theories have been made to know the firm answer.

Some states have recently enacted legislation proclaiming a boundary at 100 km (Australia) and this may evolve into an example that states follow, although other states remain convinced that no boundary is necessary (e.g. the U.S.A.).

#### **UNCOPUOS and some major principles**

The space started around 1957 between the two “super powers”, the USA and then the USSR, as the major ‘players’ in the space arena. This was also reflected in the early days of space law making. The United Nations Committee on the Peaceful Uses of Outer Space (UNCOPOUS), established in 1958 first as an adhoc and later as a permanent committee of UN, initially had around twenty member states, which enabled the committee to reach consensus relatively

easy. This resulted in the adoption of as many as five UN Treaties between 1967 and 1979.<sup>12</sup>

#### ➤ **Outer Space Tourism : Colonisation & Aviation or Space Activity**

*“For the wise men look into space and he knows there is no limited dimensions...”*

Space Law is maturing, and in its process it is bifurcating. Principles have been established, and many issues are now considered as to being settled; other formerly contentious issues appear dead, some of them are reappearing in altered forms. In the early days of the space age, states alone were the actors. Now we have the emmergent commercial uses of space and their requirement of the regulation, whether it is national or international.

Space colonization (also called **Space settlement**, or **extraterrestrial colonization**) is permanent human habitation and exploitation of natural resources of the planet Earth. Many arguments have been made for and against outer space colonization.<sup>13</sup> The two most common in favor of colonization are survival of human civilization and the biosphere-scale disaster (natural or man-made), and the availability of natural resources in space that could enable expansion of human society.

As Civilisation is a long way, with the advent of scientific development attention has been shifted towards colonisation of outer space. It menas human habitation outside the earth.

<sup>12</sup> <http://www.oosa.unvienna.org>.

<sup>13</sup> For example, The Space Show Archieved 2020-05-23 at the Wayback Machine, an online radio program,

has had on average 16 shows per month going back to 2001, many of which discuss space settlement.



The first space colony may be established on Moon and Mars. And for this, all the needy resources are required whether for life support or stipulated gravity.

However, there are few pertinent questions attached to life in outer space:

- How life can be spread and beauty throughout the universe?
- How survival of species can be possible?
- How can we save the environment of earth?
- How can the population can be distributed?

In simple words, Outer Space colony can be defined as nothing but a human expansion from earth. The aim of this human expansion should be for the betterment of civilisation and not for effectuating the imperialistic policy of few nations.

Space tourism (**Sub-orbital**) – Is it aviation or space flight, or something new? Several ‘space tourism’ ventures are taking shape—somewhat slower than expected at the time of the groundbreaking Ansari X-Prize in 2004, but they are.<sup>14</sup>

It is to be noted that whether sub-orbital space tourism will be regarded as an aviation activity or as a space activity, and whether air law or space law applies to it. As it is well known, there are many differences between air law and space law, mainly because air law is based on the complete sovereignty of the state over the airspace above its territory, while space law is based on the principle of freedom of use and exploration, and rules out any claims of sovereignty. The legal regime governing aviation is very detailed, efficient and well

defined in terms of liability, registration, jurisdiction, traffic- and transit rights, certification of aircraft and crew, and other matters, so if sub-orbital space tourism were regarded as aviation, there would be no major problems or lack of rules. If however, it would be considered as a space activity and would consequently be governed by space law, the legal scenario will be quite different and gaps may exist, because the rules are far less detailed and mostly regulate the relations between states.

In the United States of America, a temporary regime has been put in place in order to allow this new industry to make a start. US law addresses space tourism in a set of rules governing private human spaceflight, offering conditions that are less stringent than for classical transport. These rules apply at least until December 2012, but this period may be expanded because commercial space tourism has not commenced as early as expected. The FAA’s office of Commercial Space Transportation (FAA/ AST ) issues licences and mostly focuses on public safety and safety of property.<sup>15</sup>

Nowadays, Outer Space tourism will become the booming industry in coming years. The Outer Space tourism is governed by private enterprises and it is beneficial for the country having private economy. This is an entire new realm of industry which is going to play its own part in near future. Outer Space tourism falls within the scope of use of Outer space.

<sup>14</sup> [http://en.wikipedia.org/wiki/List\\_of\\_private\\_spaceflight\\_companies](http://en.wikipedia.org/wiki/List_of_private_spaceflight_companies), and [http://en.wikipedia.org/wiki/Space\\_tourism](http://en.wikipedia.org/wiki/Space_tourism).

<sup>15</sup> Melanie Walker, *Suborbital space tourism flights: an overview of some regulatory issues at the interface of air and space law*, in 33 *Journal of Space Law* (2007), 375.



Further, apart from being careful as to innovation, we must also ensure that international space law does not come up to become something separate from general international law. Were it to be so done, it would necessarily become encysted and sterile. There is an argument that space law is a “**Lex Specialis and ofcourse some of its provisions are such; but this argument is away from fact as it does not become separate from the general international law. In Space we seek the ‘rule of law’ and not ‘rule by law’ where rules are simply adhered to when convenient to the powerful and altered at their best.**”

➤ **Outer Space Debris: An International Obligation to mitigate and control**

*Space flight is not a random activity, but one requiring decisions and Commitments with very long lead times and very long consequences.*

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According to Ulf Merbold, the first West German astronaut, our genes are like a program that continuously pushes us beyond the horizon of our experience in order to conquer new positions, finally leading us into outer space.<sup>17</sup> The basic nature of the human being to explore its surroundings has been transformed to the extent of the exploitation of the outer space.

**Space debris is synonymous with ‘orbital debris’. There are, also, a number of colloquial phrases to describe ‘space**

**debris’.**<sup>18</sup> These terms include ‘space trash’, ‘space garbage’, space refuse’ and most commonly ‘space junk’. However many expressions are there to refer to orbital debris, the international space community has yet to agree on a single definition.<sup>19</sup>

A generous definition could, nonetheless be provided. That is to say, ‘space debris’ are all man-made objects launched in to outer space by space actors undertaking space-related activities, and these objects served their or have no useful function.<sup>20</sup>

It is suggested that the absence of a legal definition of space debris might have had attributed to the uncertainty for the space community to accept a universal one. The US National Science and Technology Council Committee on Transportation Research and Development is of the view that ‘orbital debris is a popular rather than a legal term.’<sup>21</sup>

By analyzing the various incidents, orbiting debris is the main source of space pollution and adversely affecting the space environment. There is an increased risk of additional debris being generated due to collision between space objects, and such fragments remaining in space permanently. There are several examples which provide ample evidence regarding damage done by debris like:

- In July 1981, the Soviet navigation satellite Kosmos 1275 broke up over Alaska in a pattern suggesting it had been hit by debris.

<sup>16</sup> Albert Gore, Jr., Outer Space, The Global Environment, and International Law: Into the Next Century, 57 TENN. L. Rev. 329, 329 (1990).

<sup>17</sup> U. Merbold, In einer Konservenbuchse auf dem Weg durchs All, Frankfurter Rundschau, 28.6.1997.

<sup>18</sup> Viikari, L. 2008. The Environment Element in Space Law: Assessing the present and charting the future. Martinus Nijhoff Publishers: Leiden at p.32.

<sup>19</sup> Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful uses of Outer Space 1999. Technical report on space debris. A/AC.105/720. United Nations Publication: New York.

<sup>20</sup> Baker. Supra, note 8 at p.3.

<sup>21</sup> Available from – <http://orbitaldebris.jsc.nasa.gov/library/IAR-95-Documents.pdf>. Date Accessed: 30/09/2010.



- In April 1984, the shuttle crew brought back to earth some malfunctioning electronics boxes on the Solar Max satellite. National Aeronautics and Space Administration (NASA) found the outer surface peppered with around 160 small holes created by flying chips.
- The European Earth observation satellite, GEOS-2, suffered injury to its solar panels in 1978, apparently when hit by debris.

There is a critical weakness in the international law on space debris. Existing space law is related to the use of space and not to debris regulation. Most of existing treaties have been overtaken by technology advancement. While the rules developed by the Outer Space Treaty or the Registration Convention is useful, it does not apply to the space debris issue. However, nothing can prevent a nation from destroying one of its own satellites.

In 21<sup>st</sup> century, where chance of space exploration is unlimited, orbital debris are great threat for government and commercial satellite operators and manufacturers. Space debris pollution problem is giving a negative effect on, space tourism, space commerce, the exploration of space, the use of raw materials from space and celestial bodies like Mars and Moon. A new space debris convention is thus **sine qua non** for fearless exploitation of space now.

### ➤ Property Rights in Outer Space: Legal Framework

The scientific endeavour and quest for knowledge had always been the main driving force for any exploration. The historic launch of Sputnik by the then Union of Soviet Socialist Republic (USSR) on October 4,

1957 laid the cornerstone of space race in the history of mankind. In the 21<sup>st</sup> century, with the entry of number of governmental and non-governmental actors in space arena, provides a great opportunity to understand, discover and invent. The national intellectual property regimes are generally based on territoriality, this might cause problems in present space law.

The absence of an international governing law and standard on rights and liabilities of IP protection for inventions made in space may require a sui-generis regime to deal with the situation or necessary amendments to the existing space law. The space research and huge investment by governments and private corporations require specific regimes and protection of their IP generated in the space. Hence, it is the need of the hour that the space faring nations should develop an international regime to foster space related science and technology research.

There should be a legal regime for the protection of technology use and new inventions in an Outer Space. The international environment for space activity has undergone a sea change in the past two decades or so. Originally started for reconnaissance during the Cold War period, space activities have now percolated to just about every other welfare activity. Needless to say, the processes of commercialization and privatization have followed and altered the very course of such activities.

Patents were granted for inventions as early as 1443, and the text of the oldest patent law in the world, officially announced as “Inventor Bylaws” was created in 1474 in the Venetian Republic. In England, the patent law was enacted in the name of ‘Monopoly Act’ in 1624. In US, patent protection provisions



are explicitly provided in the Constitution itself. It is clear that mandates of the subsequent international agreements are to promote the protection of industrial property.

**The Moon Treaty of 1979** states that the moon is the “**common heritage of all mankind**”, which suggests that the treaty read in its literal sense negates the establishment of private property rights on the Moon and the Space. However, on the other hand, the advocate on private property in space point out the Deep Sea Bed analogy to further their cause. There are a host of jurisprudential arguments which strongly favor the establishment of a private property rights regime on the moon.

And the second very favourable argument in favour of the private property rights in outer space is the environmental concern that of preserving the earth by looking at an alternative reserve of resources.

Though the Outer Space Treaty prohibits appropriation of celestial bodies, it does allow space nations to have a degree of certainty with respect to ownership of objects launched into space and material harvested from space. However, the Moon treaty has introduced unacceptable ambiguities to the space property rights framework.

Businesses like ‘Lunar Embassy’ sell plots on the Moon to interested buyers. They argue that although states are not allowed to appropriate (parts of) outer space, in

accordance with Article II of the Outer Space Treaty,<sup>22</sup> this does not bind private citizens, so they can legally sell pieces of moon to private citizens. This argument is without legal ground- of course a citizen, who is a citizen by virtue of the state giving him or her that citizenship, cannot have rights that the state itself does not have- the famous *nemo plus*<sup>23</sup> rule applies.

Space Law is mostly derived from International Law. The conventional attributes of property rights give the power to exclude others from enjoying it.<sup>24</sup> Whereas, Space law mostly propogates that space is a common province of mankind.<sup>25</sup> These two approaches may collide.

In the present scenario, the US, China and Russia have accomplished manned space flight. The EU, India and Japan have declared thir intention to have manned space flight in the near future.

There should be an international patent regime to promote innovation and inventions in space. It is necessary to provide legal certainty and incentive to invest in space related research and creation of more intellectual property on space and other technologies b y experiments in space. The current patent regimes in countries may be similar under the TRIP’s agreement, but the output may not be uniform.

<sup>22</sup> “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 any other means.”

<sup>23</sup> Nemo plus juris transfere potest quam ipse habet; no one can transfer more rights than he himself has.

<sup>24</sup> Glen O. Robinson, “Spectrum Property Law 101,” *Journal of Law and Economics*, Vol. XLI, 1998, p. 608.

<sup>25</sup> Scholars have difference of opinion that whether space should be treated as *terra communis* as opposed to *terra nullis*.



Thus, International law principles should be applicable to space activities, IP protection in particular.

### **The Paris Convention, 1883**

The Paris Convention 1883 on intellectual property is the oldest one for the protection of industrial property not only on inventions it includes trademarks, service marks, industrial designs, utility models, appellation of origin etc. Under the Paris Convention, contracting parties granted right of priority in other states, if they are claiming the rights within 12 months from filing of the patent. The substantive provisions of the Paris Convention were included in the TRIP's agreement and applicable only to TRIP's members.

### **Indian Patent Law**

The Indian patents legislation dates back to 1856, when it was enacted in line with the British Patent Act of 1852. However a full-fledged legislation was passed in 1911 named Indian Patents and Designs Act, 1911. After Independence, Indian Government appointed Justice Rajagopala Ayyangar Committee and on its report Indian Patents Act, 1970 was passed, which prevailed over a period of three decades until it was amended in 1999.<sup>26</sup> The commitments in the Uruguay Round and TRIP's Agreement compelled India to amend its patent regime in 1999, 2002, 2003 and 2005.

India require an exclusive space regime in the wake of more expeditions and activities in this space which should also include provisions for protecting its remote sensing

data as well as inventions made by Indian astronauts in the future.

In other words-

- International law principles should be applicable to space activities, IP protection in particular.
- Intellectual property protection is necessary for further investment in space related scientific research.

### ➤ **Territorial Sovereignty in Outer Space: Spatial Issues**

*“Man must raise above the earth – to the top of the atmosphere and beyond – for only this will fully understand the world in which he lives.”*

This famous aphorism though laid down about centuries ago is verbatim true that sovereignty is essential for the defense and security of a state, acclaimed by the Chicago Convention.<sup>27</sup>

*“We live on the shores of this tiny world, the third planet of nine, circling an average star, the Sun. This star is just among billions in a great city of stars, the Milky Way, itself just one among a billion other stellar cities stretching on perhaps forever. This Universe is more vast than all imagining, and filled with wonders more than we can dream, is a heritage for all mankind.”<sup>28</sup>* It is a very puzzling issue that which State all over the world can exercise the territorial sovereignty over space and outer space.

Sovereignty is the stamp of the legal personality of statehood and no one can interfere in the matter of internal affairs, in

<sup>26</sup> Srividya Raghav , “Patent Amendment in India in the wake of TRIP’s”, *CASRIP News Letter*, Winter 2001, p. 1.

<sup>27</sup> Convention on International Civil Aviation Chicago, 1944.

<sup>28</sup> U.N. Chronicle, Vol. xxix, No.4 (December, 1992), p.49.



fact state have an absolute jurisdiction on its affairs. *Baskirian Airlines v. Federal Republic of Germany*, 2006 is the case related to sovereignty issue.

According to Edward Collins, “States have complete legal control over the airspace over their territory, other States have only rights in its as are acquired of treaty. There is no customary right of innocent passage through territorial airspace...”<sup>29</sup>

Territorial Sovereignty is an important and inseparable aspect of Statehood. A State cannot be called as sovereign if it does not have absolute control over its territory. Under this domain, a state can exercise exclusive jurisdiction over persons and objects. Other states have no right to interfere. The unauthorised landing made by spacecraft can violate territorial sovereignty of a state.

*The term “territorial sovereignty” signifies that within this territorial domain jurisdiction is exercised by the state over the persons and the property to the exclusion of other states.*

State sovereignty over airspace and territorial waters is a fundamental principle of international law. If the violation of a State’s sovereignty is because of ‘national activities of another state, then that state whose activities have violated the sovereignty is held responsible under international law.’<sup>30</sup>

In case of **Island of Palmas Arbitration between Netherlands and United States**,

**Judge Huber summarily defined territorial sovereignty in terms of the existence of rights over territory rather than the independence of the state itself or the relation of persons to persons. It was remarkably held that:**

*“Sovereignty is the relation between the States signifies independence. Independence in regard to a portion of the globe is the right to exercise therein, to the exclusions of any other state, the functions of a state.”*

Territorial Sovereignty in **Corfu Channel** case explained that something which involves the exclusive right to display the activities of a State. The right has a corollary duty: the obligation to protect within the territory the rights of other states, in particular their right to integrity and inviolability. It is a way of contrasting ‘the fullest rights over territory known to the law’ with certain minor territorial rights.<sup>31</sup>

**Mandates of various The Outer Space Treaties**

- The Liability Treaty
- The Moon Treaty of 1979.

The future of public order of space is heavily depend upon cooperation among States both at multilateral and bilateral level. Thus for the economic enhancement, enrichment of knowledge, for the peaceful enjoyment of nuclear power and for the betterment in the countries like India, there should not be any restraints on the name of territorial sovereignty in Outer Space. State sovereignty over airspace and territorial waters is a fundamental principle of international law. In

<sup>29</sup> Edward Collins, International Law in a Changing World. P. 173.

<sup>30</sup> Territorial Sovereignty of Nation States vis-a-vis Unauthorized Sovereignty of Nation States vis-a-vis Unauthorized landing and Space obligation to treat

Astronaut of Mankind, by Mridushi on March 21, 2010.

<sup>31</sup> Corfu Channel Case, International Court of Justice Rep. (1949) p.23, Territorial Sovereignty of Nation States.



certain circumstances, States agree to relax their claim to sovereignty.

The Charter of United Nations recognizes the principle of territorial sovereignty in Article 2(4). It states as-  
 “All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of United Nations.”

This law of field is still in its infancy, it is in era of rapid change and development. The concept and need for a global policy for the space age like an International organization is necessary. Such a policy shall guide states in the discharge of their responsibilities for future success, and establish a stable system of law and order in the outer space.

### ➤ Jurisdiction in Outer Space

*“The Earth is the cradle of mankind, but one cannot stay in the cradle forever.”*

#### **-Konstantin Tsiolkovsky**

In the midst of the space race that began in the 1950s, jurists began defining what legal rules would apply in Outer Space. The United Nations formed the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) which drafted the Outer Space Treaty (OST).

Since the “notion of jurisdiction finds its origins in the concept of territory, the principle of sovereign equality, and non-interference in the domestic affairs of states”, nations will have to use new and innovative

legal regimes in order to exert legal controls over people in space.<sup>32</sup>

Another problem is of legislative jurisdiction. States may not, due to the constraints of the OST, extend their jurisdiction over outer space. This includes legislative jurisdiction., **“refers to the supremacy of the constitutionally recognized organs of the state to make binding laws within its territory.** This does not inhibit states from extending legislative jurisdiction over its nations abroad.

*“One of the great things about working in this field is the realization that the future that imagination has taken us to so often before – is closer now in a real way than it has ever been. Private citizens will fly in space on private vehicles.”*

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A related issue to jurisdiction is the actual enforcement of the rule of law in space. While in the future there may be ample opportunity for a plethora of peoples to be able to gain access to outer space, it will most likely remain that only a very few governments will have extensive space programs in the initial years of the space boom, creating two significant implications. First, the burden of enforcement of rules of law will fall upon the governments that have the resources to enforce them.

Secondly, and following from the first, this could mean that there is a selective enforcement of laws in space, which will be biased in favor of the enforcing government.

### India' Space Vision

<sup>32</sup>Joint Statement of Intent for Cooperation in the Field of Space Exploration by the United States National Aeronautics and Space Administration and the United

Kingdom British National Space Centre, US- UK., Apr 4, 2007 .



India's Space Vision also needs to address global governance, regulatory and arms control issues. Outer Space has been the arena of some of the most memorable technology demonstrations. Russia's Sputnik and the U.S's Apollo 11 were metaphors of geopolitical competition. For India, Chandrayaan and Mangalyaan were symbols of national pride.

India is emerging as a space power in the 21<sup>st</sup> century. Its space programme has started in the 1950s as a part of the department of atomic energy by the visionaries Homi Bhabha and Vikram Sarabhai.<sup>33</sup> The formal programme had modest start in 1962 with the Constitution of Indian National Committee of Space Research under the chairmanship of Vikram Sarabhai.<sup>34</sup>

### **Legal Regime in India**

Out of the five United Nations treaties relating to activities in Outer Space, India has ratified four and signed one. Legally, 'ratification' means a country must enact the necessary legislation to give domestic effect to the treaties within a given time frame. Despite the passage of over four decades since India ventured into space, such an enactment is still awaited. **The only legal regime governing in India is determined by the Constitution of India, 1950, the Satellite Communication Policy, 2000 and the revised Remote Sensing Data Policy, 2011. While Article 51 and Article 73 of the Constitution foster respect for international law and treaty obligations in consonance with the Vienna Convention of the Law of Treaties, 1968 and strives for**

**the promotion of international peace and security**, the policies merely sketch-out what the government wishes to do, with no legal obligation attached to them.

Till now, the Indian Space Programme is controlled by the government of India, more or less still it is a governmental function. It is being controlled by Indian Space Research Organization (ISRO). The main guideline for ISRO was to promote the development and application of Space technology for the socio-economic gain of the India. Presently, the Space Programme is under the direct charge of the Prime Minister through the Space Commission and the Department of Space. The ISRO is having its "marketing cell" which is responsible for international marketing of space products and space services. The same cell encourages private sector participation with a view to facilitate the development of the domestic space commerce and industry.

### **Suggestions – India needs a robust Space Law...**

In India, only government entities have a hold over the space sector, the Indian Space Research Organisation (ISRO). Outsourcing only involves a certain degree of supply and manufacture of components by some commercial industries. Recently, a pleasant surprise poured in when ISRO, in promoting the 'Make in India' campaign, outsourced satellite manufacturing to a private sector enterprise for the first time. These are some indicative steps towards the creation of a private space industry ecosystem that will

<sup>33</sup> Upendra Chodhury, "Twenty-five Years of Indian Space Programme: An Evaluation," *Economic times and Political Weekly*, vol. 33, No.5, 1998, pp. 212-213.

<sup>34</sup> He is considered as the father of Indian Space Programme.



lead to greater transitional, bilateral and multilateral activity.

India's move from dependency to self-sufficiency in terms of its launching adeptness could make it the world's launch pad. The cost-effective space programmes have attracted other nations and multinational units to enter into formal agreements with India to support them in their respective space projects and carry out satellite launches for them. **The advent of commercialisation, thus, calls for revising of domestic laws, such as, *the laws of Contract, transfer of property, stamp duty, registration, insurance, insurance and most importantly, intellectual property rights*, to contemplate space related issues.**

As signatory to the Convention on International Liability for damage caused by its Space Objects, 1972, India has an absolute liability to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight. However, **with no national space law and policy, it is tough for India to determine the quantum of damages owed. Additionally, decide responsibility in the event of space debris collision with objects suspended in outer space, damage being unavoidable.**

India's progress merits hurrahs, yet a holistic Space Act is vital nevertheless. Today, there are 22 nations that have domestic space laws, of which Australia, Japan and South Korea are the only Asia Pacific regions that have implemented international conventions through national laws. India must also strive for it. This will be a catalyst to further boost India's space activities and regulate them to

be in sync with dynamics of global space activities. Therefore, a robust space regime is absolutely crucial. Its absence can hinder India's growth in future. We must take proactive measures to ensure its formulation and implementation.

### **CONCLUSION...**

As humans increase their presence in Outer Space, the law that govern human activities in that environment is becoming increasingly relevant and important to both States and the Commercial sector. The OST played a very crucial role in this regime, which sets out the most important fundamental principles and policies adopted by the international community to govern human activities in outer space and is the basis upon which all other instruments have been developed.

Throughout the analysis, it is clear that the core substance for the continuation of the peaceful space exploration and exploitation is the international co-operation, but the Space law is bifurcating, a development which emerged mainly from the commercial uses of Space. In order to tackle this issue, the enactment and harmonization of domestic space legislations are essential to the creation of a secure environment for space activities regarding the legislative framework applicable to them.<sup>35</sup>

At last, it worth noting that there is a strong need to strike a balance between the need to revise and reform the treaties and the preservation of matters that are at present apparently secure. Alternatively, the possibility of the absence of a general agreement might lead the existing framework to fall apart.

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<sup>35</sup> Kopal, V., 2008, *An introduction to Space Law. 3<sup>rd</sup> revised edition ed.* Netherlands; Kluwer Law International, p.103.