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### **ABSTRACT:**

*“Recently at the beginning of April 2022, the object that fell from the sky and landed in Chandrapur District of Maharashtra was most likely to be Chinese rocket body debris. The potential for loss of life and property due to human error in space is brought into sharp focus by this event. ‘Space law’ is the body of law that regulates earthly actions in outer space. Space law is made up of a wide range of documents, including treaties, conventions, accords, and resolutions from the United Nations General Assembly and other international bodies. Space law is basically used for the launching and fixing the satellite in the Earth’s orbit for various reasons. The role of satellites is very important in the progress of the humanity. Space has become industry to gain the profit from it. Space as an investment theme is also likely to impact a number of industries beyond Aerospace & Defense.*

*Here is where we may identify a first challenge preventing space from becoming a lawless where the strongest can take an unfair advantage. Therefore, for handling of dispute which arose from satellites issues diplomatic relations between nations are absolutely necessary. The Convention on International Liability for Damaged Caused by Space Objects, 1971 provides that a launching state shall be absolutely liable to pay compensation for damage caused by the space object on the surface of the Earth or to aircraft or to aircraft in flight. Problems with the 1972 Convention this conference did not make an effort to address every potential danger posed by space endeavors”.*

**Keywords: Space Law, Importance Of Satellites, International Liability For Space Accidents, Space Traffic.**

### **I. INTRODUCTION:**

Recently in the beginning of the April 2022 the object that fell from the sky and landed in Chandrapur District of Maharashtra was most likely to be Chinese rocket body debris.<sup>1</sup> The potential for loss of life and property due to human error in space is brought into sharp focus

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by this event. Luckily, the secluded area that the space junk impacted meant no one was hurt. This sort of thing has happened numerous times in various countries in the past. The 1979 panic over the possible destruction of Skylab was shared by people in India. The first American space station and one of the most successful orbital platforms in history, Skylab, was expected to crash to Earth at an unspecified location. There were rumors at the time that Skylab would crash, especially over India.<sup>ii</sup> This was aroused panic amongst the minds of India people. This article seeks to analyze the global issues caused by the space mission so also to focus on the international law regarding the Space exploration and its safety and problems associated with the effects of space disasters on people and their property.

## **II. WHAT IS SPACE LAW?:**

To put it simply, ‘space law’ is the body of law that regulates earthly actions in outer space. Like general international law, space law is made up of a wide range of documents, including treaties, conventions, accords, and resolutions from the United Nations General Assembly and other international bodies.<sup>iii</sup>

**The following are the landmark agreements and conventions in the sphere of space exploration<sup>iv</sup>:**

- 1) *The Outer Space Treaty 1967*
- 2) *The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched in the Outer Space, 1967*
- 3) *The Convention on International Liability for Damage caused by Space Objects, 1971.*
- 4) *The Convention on Registration of Objects Launched into Outer Space, 1974.*
- 5) *The Agreement Governing the Activities of States on the Moon and the other Celestial Bodies, 1979.*
- 6) *Vienna Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE-82 or UNISPACE II)*
- 7) *UNISPACE III 1999.*

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8) *Drafts Principles on Remote Sensing of the Earth from Outer Space: 1986<sup>v</sup>*

The Space Treaty stands as a cornerstone in the evolution of space law. It represents the common interest of mankind. It has finished mere conjecture phase. It enshrines certain principals of space law which took a considerable period to establish and consolidate. Customary international law, such as that included in a number of United Nations resolutions, is represented by such expressions, which are themselves binding.

### **III. WHAT IS SATELLITE?:**

Space law is basically used for the launching and fixing the satellite in the Earth's orbit for various reasons. A satellite is basically a self-contained communications system with the ability to receive signals from Earth and to retransmit those signals back with the use of a transponder an integrated receiver and transmitter of radio signals.<sup>vi</sup> Moon is the example of natural satellite these satellites are uses for various purposes such as predicting weather, scientific research, communication, entertainment, defense and exploring universe. These satellites take pictures of other planets, the sun, black holes, dark matter or faraway galaxies. These pictures help scientists better understand the solar system and universe. A group of more than 20 satellites make up the Global Positioning System, or GPS. If you have a GPS receiver, these satellites can help figure out your exact location.<sup>vii</sup>

### **IV. ROLE OF SATELLITES AND DEVELOPMENT OF HUMANITY:**

Since the inception of the civilization human race is continuously making development, but it took drastic turn from the launched of the first satellite in to the orbit. From that time the future human race has changed. With the help of the satellites every data can be collected accurately and quickly. Now even we reached at interstellar level by sending the space traveling satellites. We reached on Mars and almost every planet in this solar system. By these missions we are revealing the secrets of this universe. Hence role of Satellites is very important in the progress of the humanity.

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## **V. CURRENT SCENARIO OF SATELLITES/ SPACE INDUSTRY:**

After the World War II the cold war and space race has begun, both the superpowers competed to each other. But apart from defense and strategic use of space technology it has now evolved in new aspects. Now it has become industry to gain the profit from it. Space as an investment theme is also likely to impact a number of industries beyond Aerospace & Defense, such as IT Hardware and Telecom sectors. According to Morgan Stanley, the global space business might be worth \$1 trillion or more by 2040, up from \$350 billion today.

Nevertheless, satellite broadband Internet connection may present the most promising potential in the near and medium terms.<sup>viii</sup> Today where we are standing that age is called as Space 4.0, we are in a period that has experienced a shift of paradigms, with changes in motivations, actors, and, indeed, technologies.<sup>ix</sup> There is an ongoing 'revolution' in the space sector with new players/commercial entrepreneurs/businesses entering a domain historically dominated by institutional players to seize the new opportunities opening in front of them. Possibilities range from the immediately applicable such as precise navigation, agriculture, surveillance, Earth environment monitoring, etc. to the futuristic opportunities, such as space tourism or asteroid mining.<sup>x</sup>

## **VI. INTERNATIONAL LIABILITY:**

Any action taken in space would have repercussions well beyond the borders of the country from whence it was launched or the place of registration for the satellite operator. Therefore, the international regulatory framework should clearly prevail on national regulations and limit the capability of countries to exploit less harsh regulations as a method to attract foreign industry.<sup>xi</sup> Here is where we may identify a first challenge preventing space from becoming a lawless where the strongest can take an unfair advantage. The same logic should be applied to *exploration and exploitation in Medium (MEO) or Geosynchronous Earth Orbit (GEO) and beyond, not just to Low Earth Orbit (LEO)*, where the current regulatory framework

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should be further developed and enforced to manage the increasing 'space traffic'. Indeed, new legislation should be adopted respecting established treaties and principles.<sup>xii</sup>

## **VII. NEW THREAT FROM SPACE TRAFFIC:**

Over the past few years, numerous satellites have been launched by numerous space organizations. These satellites will always remain in their current geostationary orbit. You can put them to use for a number of different things. Therefore, for handling of dispute which arose from satellites issues diplomatic relations between nations are absolutely necessary. Now owing to hundreds of satellites is revolving around the planet, there is concern of satellite collision in the space. Similarly, traffic bottlenecks on the highways were not prevalent in the past, but with the passage of time and the rise in the number of vehicles, they have become increasingly widespread. This same situation will soon unfold in space as well, thanks to these satellites. There are over 30,000 operational satellites in orbit right now. There are approximately 12,800,000 bits of space junk and 3,000 unoperational satellites.

Private corporations have joined the space race alongside government-run space agencies. SpaceX, a private spaceflight company, has created a satellite network called Star link to bring affordable internet access to outlying areas. This "mega constellation," as SpaceX calls it, might one day include as many as 42,000 satellites. Nearly 1900 satellites have been successfully launched thus far. Currently application for 4,000 satellites is filled for the consent of international regulators.<sup>xiii</sup> In addition, by the end of the decade, commercial firms like Blue origin, One web, and Star net want to have launched a total of 65,00 satellites. This amount has the potential to double to 2 million if current trends continue.

## **VIII. THE CONVENTION ON INTERNATIONAL LIABILITY FOR DAMAGED CAUSED BY SPACE OBJECTS, 1971:**

General assembly agreed and commended it on November 29, 1971.<sup>xiv</sup> The Convention entered into force in September 1972. The convention provides that a launching state shall be



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absolutely liable to pay compensation for damage caused by the space object on the surface of the Earth or to aircraft or to aircraft in flight.<sup>xv</sup> In the event of damage being caused elsewhere than on the surface of the earth to a space object of another launching state, the latter shall be liable only if the damage is due to its fault or the fault of the persons for whom it is responsible.<sup>xvi</sup>

## **IX. SPACE ACCIDENTS / THE LIABILITY FOR DAMAGES**

### **CONVENTION OF 1972 AND COMPENSABLE HARM:**

The Liability for Damages Convention contains a collection of rules that supplements the terms of the 1967 treaty. Its scope is expansive because it ‘ignores the distinction between civilian and military spacecraft and applies equally to both’ It accounts for the likelihood of accidents and malfunctions, as well as their results, and identifies specific types of damage that may be recoverable. Moreover, the convention incorporates provisions that define space objects and component parts. Problems with the 1972 Convention This conference did not make an effort to address every potential danger posed by space endeavors. Problems ‘that may develop when injuries are inflicted in the environment of space or on a celestial body’ are not addressed in any meaningful way, for instance.

If an international space object or the people or property aboard it sustains damage while in orbit or in a location other than Earth, compensation may be awarded under Article III. Such liability depends on the fault of the launching state or the fault of the persons for whom it is liable. As another flaw in the convention, the lack of a clear definition of ‘fault’ has been pointed out. Other noted shortcomings are its lack to put out rules for standards of care or to provide the meaning of a reasonable man. In addition, no provision was provided for imputing negligent conduct to others or for the attribution of a principal's vicarious culpability for an agent or employee. True, the Liability Convention did not definitively settle such nuances, however crucial they may be in some local legal systems.<sup>xvii</sup>

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## **X. OTHER AREAS OF CONCERN:**

The treaty (*formally the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*) is a product of the Cold War and primarily addresses concerns of that era, including nuclear war. Thus, the pact has successfully banned the deployment of nuclear, biological, chemical, or nuclear weapons into space for the past half century. The commercialization of space, however, is exerting fresh constraints on the development of space law. We need a specific rule on this subject as soon as possible because there is currently no structure for regulating or managing commercial operators in space properly. In addition, the treaty is ambiguous regarding where airspace ends and space begins. If an accident were to occur in space and have an effect on Earth's surface, this could become a worry in the future as well.

A fundamental failing of the space treaty is that it does not offer any compulsory jurisdiction of the International Court of Justice for the settlement of the disputes.<sup>xviii</sup> The international community has not yet issued any binding rulings on the subject of space law. Worse, it's unclear which international court would be responsible for mediating a space-based dispute. In order to completely address these and other issues, The Outer Space Treaty provides no express limitation against the taking of resources; the law presumes that the utilization of space resources is permissible.<sup>xix</sup>

International case law also establishes the obligation to refrain from causing harm to foreign states and to natural persons, as well as the duty to compensate for harm. In the well-known Corfu Channel case, the International Court of Justice concluded that there is an obligation of every state ‘not to enable deliberately its territory to be used for conduct adverse to the rights of other states.’<sup>xx</sup> The same premise, along with the responsibility to pay monetary damages for identified loss to property, was promulgated in the previous Trail Smelter dispute.<sup>xxi</sup> Both the determination of the obligation under international law to compensate for harm, and the

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development of criteria relating to the measurement of damages, must take into account the above decisions and court rulings.<sup>xxii</sup>

## **XI. CONCLUSION:**

Thus, from the above observations it may be concluded that, the fundamental principles and rules in the 1967 Outer Space Treaty and the Liability for Damages Convention for obtaining money damages for harm resulting from the malfunctioning of space objects satisfactorily meet the goal of providing prompt and adequate compensation to injured parties. Though this aspect is covered under the Convention but in future there will be increasingly intensive traffic in the space environment. While higher orbits will undoubtedly become more popular in the future, at that time the heavier amount of traffic at the lower orbital levels constitutes possible risks. Objects in lower orbit are more likely to return to Earth, either as entire objects or as debris. In such a background, space mishaps are most likely to occur in near future and it will heavily cost human life and the property. Though it may be caused by human or technical faults. But before these catastrophes cause irreparable harm to humanity, we must learn to foresee them and find solutions. Therefore, it is clear that we need to take precautions. As well as to bridge the gap between present law and its future demands.

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