

Space Security and the Law of International Space Cooperation: The Need for Leadership and Coordination

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ABSTRACT

In recent times space exploration and technological advancements hold prominent importance, the merger of space security and international collaboration must be paid attention too. Whereby, during the recent advancements in space technologies which include the proliferation of satellite and emergence of various space programs, the non-commercial and sustainable utilization of space must be taken care of. This paper explores and access the methodologies adopted and put into motion by nation having a well-established space program to address the difficulties faced while maintaining the space security along with ongoing space explorations. This research study will also pay emphasis towards analysing the already existing legal framework which directly governs various outer space activities, international organizations, role of governments and private industry players towards shaping of governance in outer space. In order to build trust and furthering the shared objectives in outer space and resolution of disputes among nation states, emphasis on how significant and valued international cooperation and diplomacy can prove to be. The various risks factors such as deliberate actions which are testing of anti-satellite weapons and dispersion of space debris in high volumes that the assets in space encounter are explored in this research.

This study also discusses about case studies that have impacted the outer space and space explorations and other space missions positively as well as negatively in past instances. This study concludes the necessity of proactive leadership and teamwork in addressing the issue of space security and the legislation of international space cooperation. Roles of significant stakeholders, implementation of future course of actions with necessary changes to guide and provide policymakers in understanding the complexity of space reforms for peaceful utilization of outer space for both current and future human race.

Keywords: Space Law, Space Security, International Space Cooperation, Satellite, Space Debris, Space Exploration, Outer Space Activities.

INTRODUCTION

The vast expanse of the outer space has always captivated the imagination of human race and inspired the mankind and gave rise to our curiosity and pushing the boundaries towards space exploration. Nowadays, nations heavily rely space-based assets via satellite for communication, surveillance, navigation purposes, and scientific research. Due to these rising space exploration activities ensuring the safety, sustainability and peaceful use of space assets has become paramount. Owing to these circumstances the intersection of space security and international space cooperation has become necessary offering both challenges and opportunities in this modern spacefaring age. Throughout the history, space exploration has seen

remarkable advancements from the launch of the first artificial satellite (Sputnik 1) by Soviet Union in 1957 to the remarkable achievement of humans landing on the moon and establishment of space station and interplanetary missions.

Curiously, working together internally is considered a major aspect of space law and decision making as it first appeared in the United Nations since the beginning when the organization was dealing with the outer space issue. While originating from the unique security dynamics of the Cold War era, this principle stressed & emphasized cooperation and communication as vital elements for ensuring that space remains a peaceful domain and helps for the benefit of human race. However, during the post-cold war era this unity is facing challenges due to various factors.

The landscape of contemporary international relations has seen the emergence of new dynamics that is putting up a pressure on the traditional norms of international cooperation in space. Commercial ventures & the development of space capabilities by non-traditional actors and fast paced technological advancements are all contributing to the complex issue of maintaining security and adherence to established legal frameworks. These shifts have led to uncertainties and tensions within the international space community, undermining the established order and causing a reconsideration of existing norms and policies to adapt to the evolving space environment in today's era.¹

• **Background of the Outer space Exploration**

The principle of freely exploring and utilizing outer space is a fundamental concept in space law. This principle of put forward and unanimously endorsed by the United Nations and hence, became a significance aspect of the outer space treaty. The outer space treaty stipulates that outer space also include within its meaning celestial bodies like moon which are open for exploration and utilization. However, a question arises as to who holds the right to exercise this freedom? The answer to this question is bit of a negative. If the intention of the drafters was to limit the right of exploration and use solely to states then they could have included the word 'only' to specify 'only by states.'

The Outer space Treaty (OST) 1967 stands as one of the foundational principles in the arena of space laws enumerating principles such as peaceful use of outer space while maintaining order and avoiding conflicts. The main principle of freedom of exploration and use outlined in the outer space treaty is a fundamental concept but its application depends upon certain limitations and provisions. The requirement includes that space activities must be conducted for the benefit and interest of all the countries together or earth as a whole, without any discrimination and in accordance with international law. Space exploration is designated as the common heritage of the mankind. Furthermore, special provisions are enumerated within the treaty such as the prohibition of national appropriation and restrictions on military uses and to set boundaries and guidelines of permissible activities in outer space. For instance, harmful contamination is to be avoided to preserve the integrity of the cosmic bodies and space environment to be taken in consideration as well.²

In this context of our investigation, we will focus on one of the most crucial limitations that is the obligation that space exploration and use must serve the collective benefit and interests of all the nations. This requirement underscores the importance of ensuring equitable access to and responsible utilization of outer space resources for the betterment of humanity.

¹ PJ Blount, *Space Security and Law of International Space Cooperation*, Vol. VIII-IX IJASL. 1, 1-2 (Jan 2019-Jan 2020).

² Stephen Gorove, *Freedom of Exploration and use in the Outer space Treaty: A textual Analysis and Interpretation*, Vol. 1. Den. Jor. Int. law & Pol. 93, 100 (1971).

- **Space security and international cooperation**

As satellites have become more valuable assets, disputes over their usage and control become more likely. However, existing laws and norms and policies governing space usage have not evolved at the same pace. Hence, leaving gaps that poses challenges to stability and security.

Recent events, such as demonstrations of anti-satellite (ASAT) capabilities and collisions between satellites underscore the urgency of promoting protection for the space environment. The increased amount of dangerous space debris poses heightened risks to satellite operations, while increasing the potential for mistrust and tension among nations. Addressing these challenges requires multilateral efforts to strengthen space governance and enhance cooperation to mitigate risks and foster sustainable space exploration.³

- **International Cooperation**

In ongoing discussions regarding the commercialization of outer space. it's often ignored that the legal framework governing outer space mainly focusses at insuring international peace and security. While promoters of commercial development often portray a narrative of rivalry between nation states emphasizing concepts like 'the new space race,' the treaty system puts forth a strong focus on international cooperation. Indeed, the OST highlights and mentions the word international cooperation seven times, twice in the preamble, once in Article 1, Article 2, Article 9, Article 10, Article. 11. Thus, emphasizing its significance as an important subject.

The importance of international cooperation in the Outer space Treaty reflects the intention of negotiators to extend the multilateralism established after World War II. Instead of focusing on the enmity which pertained after the Cold War era, they laid emphasis on highlighting cooperation as a means of stabilizing security in space. This shift was crucial in an era known widely by the fear of global nuclear threat/conflict, where space technology accelerated the timeline of potential warfare to mere minutes or hours.

The value of international cooperation has been consistently highlighted in United Nations documents, with resolutions emphasizing its importance in developing international law and promoting peaceful use of outer space. Despite the emphasis on cooperation, the legal obligation itself remains aspirational and inappropriately defined as there were no specific requirements supporting and promoting the field of international cooperation. The UN General Assembly attempted to clarify the concept with the 1996 Benefits Declaration which encouraged states to share the benefits of outer space activities on an equitable basis rule⁴. However, the nature of international cooperation in outer space is largely voluntary & unenforceable with discretion lying towards nation states, to engage in multilateral behaviour in good faith. While it generally is considered as legal obligation the practical implementation of international cooperation in outer space is still challenging. Nevertheless, fostering cooperation among states is seen as essential for maintaining security and stability in the space domain.⁵

EVOLUTION OF SPACE LAW

International space law consists of a distinct subset within the broader framework of international law. It includes various legal and regulatory frameworks that directly or indirectly influence space activities or significant applications related to space. This definition Includes the standards established by international

³ Grego, Laura, *Security in Space: What Is at Stake and How Do We Move Forward?* Asian Perspective, vol. 35, 503, 504 (2011).

⁴ UNGA, *Declarations on International Cooperation in the Exploration and Use of Outer space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries*, Res. 51/122 (1996).

⁵ PJ Blount, *Space Security and Law of International Space Cooperation*, Vol. VIII-IX IJASL. 1, 1-2 (Jan 2019-Jan 2020).

bodies, regional entities and individual governments. In its very essence, space law is multifaceted & influenced by a varied and distinct factor stemming from public interest, private enterprise, technological advancements, economic considerations, security imperatives, and political dynamics. Its evolution, development, and practical application are shaped by the intersection of these diverse domain.

- **Significance of Outer space Treaty (OST)**

An essential international instrument which is widely known as the Outer space Treaty serves as the foundational principle of space law and helps outlining the fundamental guidelines for human activities and setting norms of behaviour for states in outer space⁶. While international law typically regulates relations among states, on the other hand, space law establishes a legal framework for a coordinated global community within the field of outer space. Although this distinction may seem unnoticed sometimes, still, its implications are profound and beneficial. The treaty establishes the fundamental principles for maintaining public order in outer space, reflecting its universal applicability and customary status within the international community.⁷

Due to its universal mandate and fundamental provisions the Outer space Treaty has achieved widespread acceptance and is considered customary law, binding even on states that have not ratified or accepted to it. Certain provisions within the treaty are so fundamental and permanent that they can be regarded as peremptory norms of state behaviour in outer space akin to ‘Jus Cogens’ principles in international law. Additionally, states are obligated to conduct their activities in accordance with international law, including the United Nations Charter, and to prioritize international cooperation to the fullest extent possible.⁸

- **Overview of international Space Legislations**

Throughout the history, United Nations (UN) has played an essential role in establishing an effective and equitable international legal framework for activities in outer space. This initiative comes necessary due to geopolitical tensions which were competition between superpowers like the United States and the Soviet Union. In response to this the UN established the Committee on the Peaceful Uses of Outer space (COPUOS) to codify rules governing space activities.⁹

COPUOS, along with its sub-committees namely the Scientific and Technical Sub-Committee and the Legal Sub-Committee were tasked with formulating and codifying international space law while promoting cooperation and equality among states as paramount condition outlined, the committee's contributions can be understood through three distinct phases¹⁰. During the pre-treaty phase or First phase COPUOS focused on drafting UN Declarations and Resolutions but which lacked binding legal force but carried significant political and moral weight.

The second phase marked a period of productive treaty-making which is now often referred to as the ‘golden age of space law treaty-making’. During this time, COPUOS facilitated the creation of landmark agreements such as the Outer space Treaty (OST) and other core treaties, which established foundational principles for space law. The OST functioned besides constitution laid down general principles serving as the basis for all subsequent space law.¹¹

⁶ *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer space, including the Moon and Other Celestial Bodies*, 1967 (OST).

⁷ Detlev Wolter, *Common Security in Outer space and International Law*, UNIDIR. 29, at 111 (2005).

⁸ G.S. Sachdeva, *JUS COGENS of Space Law*, II AJASL. at 173, 175 (2012).

⁹ Reports, *International Outer space Law*, Space Policy at 65 (1987).

¹⁰ Frans von der Dunk and Fabio Tronchetti (eds.), *International space law (handbook)*, EEPL at 38, (2015).

¹¹ Joanne Irene Gabrynowicz and Jacqueline Etil Serrao, *An Introduction to Space Law for Decision Makers*, Josl. .30, 228 (2004).

- **Other Various Relevant Treaties and Agreements**

In 1963 the United Nations General Assembly (UNGA) adopted the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer space, 1963 (Principles Declaration), marking the first international instrument to outline directives for regulating space activities conducted by states. Following the Principles Declaration, a series of five treaties, collectively known as the "core of international space law," were established. These treaties include the:

Outer space Treaty, 1967 (OST); The Moon Agreement - Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 1979 ; the Rescue Agreement, 1968; the Liability Convention, 1972; and the Registration Convention, 1975. The features and importance of all these treaties are discussed below.

- 1. The Rescue Agreement.**

The Convention on the Rescue and Recovery of Astronauts and Objects Launched into Space, commonly known as the Rescue Convention, is an international agreement that defines the rights and obligations of nations to rescue people from space. The treaty was adopted by a unanimous vote of the United Nations General Assembly on 19 December 1967 by resolution 2345 (XXII) and entered into force on 3 December 1968. The treaty complements the rescue provisions of Article V of the Outer space Treaty by providing clarifications and provisions. detail It was signed by 24 countries and ratified by 92 countries, as well as the European Space Agency and the European Organization for the Use of Meteorological Satellites. The purpose of the rescue agreement is to regulate the rescue of astronauts and the return of objects sent into space. According to the rescue agreement, a party to the agreement must inform the launch agency and the Secretary General if it learns of personnel in distress on a spacecraft. United Nations The treaty obliges the parties to provide all assistance for the rescue of personnel from spacecraft that have landed on their territory due to an accident, emergency landing or accidental landing. If an emergency occurs outside the territory of a country, all States Parties that are able to do so must provide assistance in a search and rescue operation. While the Outer space Treaty obliges astronauts to provide all possible assistance, it lacks a clear rescue agreement that addresses. this. referring to the term "spacecraft personnel", although this still leaves some ambiguity regarding individuals such as space tourists. In addition, when a space object lands on the territory of another country, the country where the object lands must return it and return it to the launch authority upon request. A boot state is then needed to offset the cost of recovery and the recovery to the recovery state.

- 2. The Liability Convention.**

The Liability Convention came into effect since September 1st, 1972 with an aim to establish liability for damage caused by space activities. Signed by 22 states, its primary goal is to govern international liability resulting from space related incidents. According to Article 7 of the Outer space Treaty, the launching state bears responsibility for compensating damages caused by its space objects on Earth's surface or to aircraft as well as for damage caused by its faults in space. It is to be noted that under the Liability Convention it is the state, not private individuals that holds international liability.

Hence, states should enact national laws to safeguard their interests in collaborative space research and limit liability in case of damage. However, the absence of such laws does not absolve liability under this convention Claims under the Liability Convention are to be initiated by states against other nation states. Unlike in most national legal systems where individuals or corporations can sue each other, here, claims must be made at the state level. This means that individuals seeking compensation for space related

damage must have their country file a claim against another country responsible for launching the space object causing the damage eventually.

3. The Regulation Convention.

The Convention on Registration of Objects Launched into Outer space was adopted by the UN General Assembly in 1974 and entered into force in 1976. It is currently ratified by 72 countries. According to this convention, countries must provide the United Nations with data on the orbit of each space object. The UN has kept a record of launches into space since 1962, according to a resolution of the General Assembly. Along with four other outer space law treaties, the registration agreement is overseen by the United Nations Committee on the Peaceful Uses of Outer space.

4. The Moon Treaty.

The Lunar Treaty, widely and formally known as the Treaty on the Activities of States on the Moon and Other Celestial Bodies, is a multilateral agreement that gives participating nations jurisdiction over all celestial bodies. This means that all operations on celestial bodies, including those in their orbits, must comply with international laws and regulations, including the UN Charter. Although it was founded in 1979. The Moon Treaty has not been ratified by any of the countries participating in their own spaceflight launches, such as the United States, Russia, China and India. Its importance in international law is very small. Currently, as of January 2022, only 18 countries are parties to the agreement. The main purpose of the Lunar Treaty is to establish legal principles for countries, international organizations and individuals involved in the exploration of celestial bodies other than Earth. It proposes the establishment of an "international system" of States Parties to monitor relevant research and resource management procedures. The agreement emphasizes that celestial bodies can only be used for peaceful purposes and their environment may not be disturbed. It also states that the celestial bodies, including the Moon, are the common heritage of mankind and no country claims sovereignty over them. India is a signatory to these conventions and treaties, which form a major part of international space law. India actively participates in several international forums such as the UN Commission on the Peaceful Uses of Outer space, the International Council of Scientific Unions and the International Astronautical Union to influence global space policy and law. Although India is a member of these treaties, it currently does not have comprehensive legislation on space-related issues.

ANALYSING INDIAN SPACE LAWS & REFORMS IN RECENT YEARS

As we observe, India's space industry has been influenced by significant investments from other nations. The governance of India's space sector has been subjected to thorough scrutiny and oversight with some very key decisions often being made directly from the Prime Minister's office. This level of control over India's space endeavours is commendable and reflects the country's commitment to excellence in this remarkable field to achieve heights which other countries in the globe are struggling to acquire.

Despite this centralized control the Indian Space & Research Organization (ISRO) has achieved remarkable success in space technology in past few years increasing India's global reputation as a leading spacefaring nation and a formidable player in the field While the government has historically controlled India's space activities the shift towards privatization calls for the necessity for dedicated space legislation. Currently, India lacks significant space laws with regulations primarily outlined in existing policies. However, as the country progresses towards privatization the making of dedicated space legislation becomes increasingly vital to effectively govern the expanding space industry.

Contemporarily, Indian space Law is revolving around these policies: -

1. Satellite Communication (SATCOM).

In 1997 the Department of Space introduced the Satellite Communication policy 1997 (SATCOM Policy). Given the vast scope and future potential of space activities in India one might have anticipated a comprehensive document outlining guidelines for the advancement of satellite communication, telecommunications, broadcasting, space exploration, and related services. However, the government issued a concise policy in 2 pages consisting of five key points making it the sole policy governing satellite communication in India. Among its directives the policy emphasized the development of satellite communication and enhancement of launch capabilities and the promotion of private investment in the space industry. However, recognizing the inadequacy of the policy, the government subsequently formulated norms, guidelines, and procedures to supplement the SATCOM policy as following.¹²

2. Remote Data Sensing Policy.

The government in this policy authorized the provision of high-resolution imaging services having capabilities up to 1 meter to be distributed freely on a non-discriminatory basis and upon requests excluding sensitive imagery data concerning critical defence installations within the nation which are critical to the sovereignty and integrity of India. This policy, besides unlocking the remote sensing sector aims to curb restrictions to allow greater access to high resolution imagery data for developmental purposes.

STATUS OF SPACE SECURITY WITH SPECIFIC REFERENCE TO THREATS TO SPACE ASSETS & CHALLENGES IN SPACE TRAFFIC MANAGEMENT WITH CASE STUDIES

When delving into the field of space law concerning the issue of space debris and security threats revolving around it, it's essential to first understand the nature of the problem itself rather than immediately diving into the legal framework governing space activities. Space debris is nothing but parts and fragments of human-made objects in outer space presenting a significant challenge. With over fifty years of space exploration there are now more than half a million debris pieces larger than one centimetre in diameter, posing a substantial threat as they cannot be shielded against. This debris has the potential to destroy or malfunction larger space entities like satellites necessitating careful consideration of this issue. Moreover, there are approximately 150 million smaller-than-one-centimetre debris pieces even infiltrating heavily funded orbits dedicated to telecommunications, remote sensing, navigation and housing the International Space Station.

• Why Space Debris is a Legal Concern?

Before delving into the term space debris and the efforts made by nations to mitigate it, firstly, let's first understand what space debris includes. Space debris encompasses all non-operational, human-made objects including fragments in Earth's orbit or re-entering the atmosphere. Surprisingly, the term "space debris" is not explicitly mentioned in the Outer Space Treaty however the treaty outlines the importance of conducting space exploration in a manner that avoids contamination and adverse environmental changes on Earth. The UN's Committee on Peaceful Uses of Outer Space defines space debris as any manmade object or its fragments in Earth's orbit or re-entering the atmosphere regardless of ownership, and incapable of functioning as intended.¹³

¹² Norms, Guidelines and Procedures for Satellite Communications Announced ISRO (May 08, 2000) <http://www.isro.gov.in/update/08-may-2000/norms-guidelines-and-procedures-satellite-communications-announced> (2000).

CASE STUDIES ON SPACE DEBRIS INCIDENTS

1. Collision of Russian Satellite with US Based Iridium 33

On February 10, 2009, an inactive Russian satellite named Outer space 2251 collided with an active Iridium 33 satellite operated by Iridium Satellite LLC of the United States. That collision, at an altitude of 790 kilometres, produced more than 1,800 pieces of new debris tracked by the US Space Observatory. The consequences triggered political and legal disputes between the two countries involved. The Russian Federation defended the decommissioning of the satellite citing its inability to move, and did not argue that it was under no obligation under international law to remove Outer space 2251 after it ceased operations. They then accused Iridium LLC of not instructing their satellite to avoid collision. Iridium LLC contested the duty to avoid the collision even if it was aware of it. According to Article IV of the Outer space Treaty of 1967, the placement of nuclear or mass destruction weapons in outer space is expressly prohibited, as well as the testing of weapons or military manoeuvres on celestial bodies. In addition, Article VI of the treaty provides for international responsibility for damage caused by space objects. More information is described in the provisions of the convention on liability. However, article II of the convention on liability stipulates liability only if the damage is caused by the launching country or persons to whom it is responsible. Despite the collision between Outer space 2251 and Iridium 33, neither side demanded compensation. However, the complexity of space debris legislation meant that such cases were overlooked without imposing sanctions on countries responsible for space debris accidents.

2. ASAT Test by China in 2007

On January 11, 2007, China conducted an anti-satellite test (ASAT) by intentionally destroying its defunct weather satellite, Fengyun-1C (FY-1C), marking one of the largest events generating space debris. This test aimed to showcase China's capability to conduct strikes in space, joining the USA and Russia in conducting such tests. However, the aftermath was unprecedented, leaving behind a cloud of debris with over 3,000 trackable objects and an estimated 15,000 debris particles, increasing the Earth's orbit's debris quantity by about 10 percent. NASA monitored a piece of the destroyed satellite approaching the International Space Station (ISS) within 6.07 kilometres or 3.77 miles. Subsequently, in 2013, a potential collision was reported between the Russian Ball Lens in Space (BLITS) nanosatellite and debris from China's ASAT test. For Russia to hold China liable under the Liability Convention, they would need to prove China's negligence in producing the debris fragment that destroyed BLITS and demonstrate that the collision was unavoidable. Absolute certainty would be required to link the space junk to the FY-1C satellite's fragmentation resulting from China's ASAT test.¹³

DEBRIS MITIGATION: STEPS TAKEN

-Below are some significant strides taken towards mitigating orbital debris.

The UN's Space Debris Mitigation Guidelines outline measures applicable to mission planning and spacecraft operation. These include limiting debris release, minimizing break-ups, reducing collision probability, avoiding intentional destruction and controlling post-mission debris. The United States National Space Policy emphasizes minimizing debris creation to preserve the space environment in accordance with the Space regulations. Space Policy Directive also signifies the need for revising and enforcing debris mitigation policies internationally.

India in response to concerns raised after its Mission Shakti anti-satellite test has established the Directo-

¹³ B. K. Sudarshan and S.R. Bhumika, *Space Debris: An Evolving Concern*, Vol. VIII-IX 177. 181-185(2019-2020).

rate of Space Situational Awareness and Management (SSAM) to manage space debris risks. ISRO aims to conduct research on active debris removal and space debris modelling. These guidelines focus on manoeuvring spacecraft and satellites to prevent collisions and reduce rocket breakups. They stress monitoring spacecraft during operation to prevent malfunctions that could generate more debris. These guidelines also emphasize updating policies to reflect new developments in space technology. Regarding legal remedies the Outer Space Treaty, though not explicitly mentions space debris but still holds states liable for damage caused by their space objects. It prohibits harmful contamination of space and requires states to register object launched into space.

ROLE OF LEADERSHIP AND COORDINATION IN SPACE GOVERNANCE WITH CASE STUDIES

Many nations are turning away from multilateralism due to perceived threats to their national security posed by globalization and international cooperation. However, this overlooks the lessons from history particularly from the post-World War II era, when the United Nations Charter aimed to prevent conflicts through multilateral diplomacy. The space domain illustrates the benefits of multilateralism in enhancing security. Space incidents either accidental or deliberate impacts all space actors by generating debris that destroys the space environment.

Cooperation is essential for effectively utilizing space resources, such as the geostationary orbit. Early in the space Age this is why both the US and the Soviet Union recognized the dangers of space weaponization and agreed to ban nuclear testing in space through the Partial Test Ban Treaty of 1963. In today's congested and competitive space environment coordination is vital to ensure the sustainability of space activities. The growing involvement of military, civil and commercial actors suggest the need for international cooperation.

Space Traffic Management (STM) signifies the necessity of coordination. While there's agreement on the need for an STM system progress is hindered by security concerns. States hesitate to share space situational awareness data due to fears of increased target risks. However, cooperative efforts can establish communication channels to coordinate activities enhancing stability without compromising national interests of oneself. Such cooperative systems can 'also inform the development of space law, providing guidelines for responsible space activities. As coordination practices evolve the policymakers can gain insights into adapting laws and policies to accommodate emerging actors and technologies in space.

CASE STUDIES

1. International space station Study on collaborations among various nation in ISS, highlighting successful international cooperation

In the space exploration it seems that countries are increasingly teaming up rather than going on alone. This collaborative approach offers a plethora of benefits by allowing nations to pool their resources and knowledge to tackle projects that would otherwise be out of reach for any single player. Looking back in time, there have been some notable success stories in joint space ventures, like the Apollo-Soyuz Test Project and the missions involving the Spacelab and Soviet space stations, Salyut, and Mir.

CONCLUSION

To ensure space security international cooperation plays a majorly significant role by collaborative data mentioned in the UN Charter for safeguarding terrestrial security. States must gather and learn the

historical lessons by recognizing that prioritizing self-interest does not always lead to greatness and in domains like space it can or may develop global insecurity.

Amidst the ongoing development of space activities cooperation is necessary to safeguard the space environment for all. The benefits derived from space are important to global society but their preservation is turning point on concerted efforts to understand and in growth of international cooperation.

Contrary to serving of national agendas the foundation of international space law was laid to ensure equitable access to space for the betterment of all humanity. Injecting populist politics into the space domain contradicts the fundamental ethical and legal principles governing outer space Cooperation offers a pathway forward by establishing frameworks for states to synchronize their space endeavours. However, effective leadership in space remains difficult amidst current geopolitical issues. Major space touching nations appear more inclined to obstruct progress than to fostering a system serving the collective interests. This shortsightedness is alarming and it's important to address it before irreversible harm befalls the space environment.