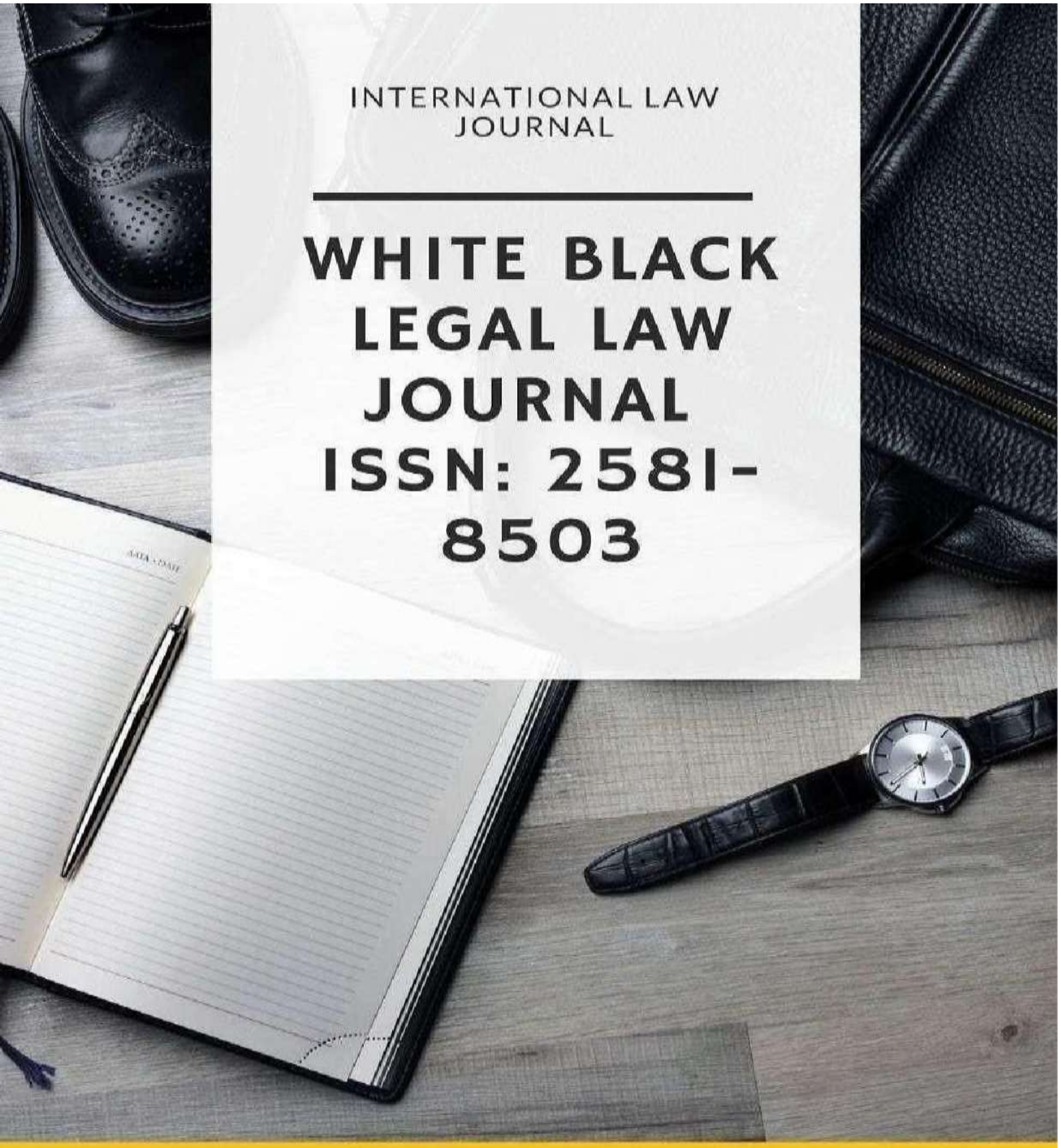

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THE EXIGENCY OF SPACE LAW IN INDIA

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INTRODUCTION

India's space programme began in 1963, when a visionary named Dr. Vikram Sarabhai led the country's first rocket launch. Following that, India's first research satellite, Aryabhatta, was launched. India's attempts have been crystallised into several operations with applications in communication, broadcasting, meteorology and oceanography, natural resource survey, environmental monitoring, and disaster prediction thanks to the Indian Remote Sensing Satellite (IRS) and Geosynchronous Satellite (GSAT). In 2017, ISRO launched the world's most powerful home-built rocket, collaborated with NASA to develop an Earth-imaging satellite, launched a South Asian satellite, and launched 104 satellites in one flight. It's worth noting that, as of December 2019, ISRO had launched more than 300 satellites for 33 different countries.

The Outer Space Treaty, which governs states' activities in the exploration and use of outer space, including the Moon and other celestial bodies, was signed by India in 1967 but not ratified until 1982. In 1979, India accepted the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, as well as the Convention on International Liability for Damage Caused by Space Objects. In 1982, India signed the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies and acceded to the Convention on Registration of Objects Launched into Outer Space.

Any state (party to international space law treaties) that wishes to support private activity in the space domain must make arrangements for international accountability with respect to private activities. This incentive acts as a foundation for the passage of national space legislation, as legal certainty is required for the development of commercial activity. Several companies focusing on space activities have been established in India in recent years. There is regulatory uncertainty in the Indian space business because there is no law or rule governing end-to-end commercial space activity. Despite the fact that the Indian government has created

numerous policies to provide regulatory guidance on various commercial space activities, these policies are incapable of establishing a comprehensive legal framework.

It can be inferred that the policies currently laid out merely sketch out what the government of India wants to achieve; however, with no legal obligation attached to it, the dream of 'Digital India' and India becoming a space superpower cannot be achieved and hence there is an urgent need for proper space legislation in India.

STATEMENT OF PROBLEM

"Harnessing space technology for national development while pursuing space science research and planetary exploration" is the fundamental purpose of India's space programme. The ISRO's numerous programmes illustrate this, ensuring that space-related breakthroughs are utilised and made available to the Indian people.

It can be said that India has caught up to powers like the United States and Russia in terms of space programmes. This fact merely reinforces the reasonable inference that India must catch up to these countries in terms of enacting adequate state laws to regulate this area. Furthermore, the rate at which India continues to carve its mark into the frontiers of space innovation and technological know-how only strengthens such a belief. This natural corollary, however, does not hold true. While numerous countries, like Canada, Germany, the Netherlands, South Africa, and Ukraine, have meticulously constructed their legal framework despite not being established space technology tycoons, India lacks national space laws.

India has ratified four and signed one of the five United Nations treaties pertaining to activities in outer space. In legal terms, ratification means that a government must pass the required legislation to give treaties domestic effect within a certain time limit. Despite the fact that India has been in space for almost four decades, such legislation has yet to be enacted. The Constitution of India, 1950, the Satellite Communications Policy, 2000, and the updated Remote Sensing Data Policy, 2011 are the sole legislative frameworks that control India's space industry. While Articles 51 and 73 of the Constitution foster respect for international law and treaty obligations (in accordance with the Vienna Convention on the Law of Treaties of 1968) and work to promote international peace and security, the policies are merely a sketch of what the government intends to do, with no legal obligation attached.

This is why I am writing this research paper to show why it is essential for India to have its own legislation for all activities related to space.

HYPOTHESIS

- There is no proper space law in India
- The current laws in India concerning space law are of limited scope and are getting outdated
- Other countries like the UK and the USA have proper space legislation which aids their growth in the field
- In order to foster the growth of the Indian space industry and enable private entities to contribute towards making India a space superpower, robust space legislation is all the more imperative.

RESEARCH OBJECTIVES

The objectives of this research are:

- To analyse the background of space legislation of India
- To critically analyse the current space legislation of India
- To analyse the space legislation of leading nations like the UK and the USA and compare their laws to those of India, hence finding the gaps between India and those countries and finding out the need of proper space laws in India
- To suggest what laws can be made regarding the same

CHAPTER 1

ISRO: The Advent of India's Space Journey

India's space programme began in 1962, not long after the country gained independence from the British in 1947. With the establishment of the Indian Space Research Organisation (ISRO) in 1969, the programme received its first impetus. In mid-1972, the Indian government established the Space Commission of India (the Space Commission) and the Department of Space (DOS), and in September 1972, the ISRO was transferred to the DOS. In 1975, India launched its first satellite. India's space sector has gone a long way since then.

The Outer Space Treaty, which governs states' activities in the exploration and use of outer space, including the Moon and other celestial bodies, was signed by India in 1967 but not

ratified until 1982. In 1979, India accepted the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, as well as the Convention on International Liability for Damage Caused by Space Objects. In 1982, India signed the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies and acceded to the Convention on Registration of Objects Launched into Outer Space.

On a national basis, India has a few policies in place that are observed during space exploration endeavours. ISRO's technology policy is a well-defined and methodical technique to exchanging knowledge about enhancements and things developed by Indian Space Places in order to help Indian initiatives and their commercial implementation in the context of diverse space endeavours.

In the case of India, it is worth noting that the country lacks a comprehensive national policy despite being a signatory to the Moon Treaty of 1979 and having ratified four other treaties, including the Treaty prohibiting nuclear weapon tests in the atmosphere, outer space, and under water and the Convention prohibiting military or other hostile use of environmental modification techniques. The only regulatory frameworks governing the space industry in India are the Satellite Communication Policy, 1997, the revised Remote Sensing Data Policy, 2011, ISRO's Technology Transfer Policy, and the Constitution of India, 1950, with the establishment of a new organisation called the Indian National Space Promotion and Authorisation Centre (IN-SPACe) expected to be established soon.

CHAPTER 2

Indian Space Law: An Overview

India is gaining traction as a prospective player in the global commercial space sector. Authorization, contracts, dispute resolution, licencing, data processing and distribution related to earth observation services, insurance, space technology certification, legal difficulties related to launch services, and stamp duty are all topics that need to be handled. To introduce space law-related issues into domestic law, the necessary statutes and laws must be updated. There are provisions for participation of private satellite systems, for example, to make the aforesaid viewpoint apparent. There is, however, no legal protection for the operator or the government from culpability in the event of harm. As a result, intellectual property rules have thus far been silent on space-related issues.

Currently, ISRO creates intellectual property rights like as patents, data rights, and trademarks. As a result, provisos for the peaceful use of outer space for the universal overall benefit of humanity should be included in Indian domestic space legislation.

India is ranked fifth in the world in terms of space technology, which is a fantastic achievement, and it cannot afford to ignore space policy. The Government of India has outlined the initial regulatory framework for space activities in terms of rules and procedures. The Remote Sensing Data Policy, 2011, went into effect and replaced the 2001 policy's inadequate provisions, such as lifting the restrictions on the supply of satellite data up to 1m resolution after receiving clearance from the government's High-Resolution Image Clearance Committee (NRSC); a policy framework for satellite communication in India (the SATCOM policy), followed by the SATCOM standards and the ISRO's technology transfer policy.

Due to a lack of transparency and government influence, notably from the Indian Space Research Organisation, the SATCOM Policy and subsequent guidelines failed to inspire commercial participation after their early hoopla ("ISRO"). Only a few applications for establishing Indian satellite systems were submitted to ISRO, and none of them were successful. As a result, the Indian space sector is still entirely controlled, managed, and operated by the government. The SATCOM Policy, as well as the norms and criteria established in 2000, continue to govern satellite communication.

CHAPTER 3

SPACE LAWS IN THE USA AND UK

The chapter gives an overview on Space Law, and talks about the space laws of some countries and how they have shaped their laws, compared to others. It talks about the existing provisions of Space Law in two of the leading countries of the world, namely the USA and the UK, and the position of India when it comes to regulations and legislations under the same.

Given the advancements in the space sector in the United States and the Soviet Union, the United Nations Office for Outer Space Affairs (UNOOSA) was founded in 1958. The UNOOSA collaborates with all 193 UN members to ensure that there is a peaceful exchange of affairs relating to space amongst countries. The body's creation is also required due to the concerns of developing countries. Many developed countries believe that space exploration and space materials can benefit them economically, and that these resources should be allocated

equitably among developed countries so that all countries on the planet are on the same track.

The International Committee on Global Navigation Satellite Systems (ICG) was set up to advance similarity, interoperability, and straightforwardness between all the satellite navigation systems, especially for agricultural countries. The UN-SPIDER program was also launched to provide an open stage to creating states to utilize space-based innovations for the fiasco, the board, and crisis response. The body is also responsible for maintaining international treaties and international agreements related to space laws.

The United States was one of the first countries to begin developing a space legal framework, and it continues to lead the world in this field. The United States has the most powerful and coherent public space law and administrative system than any country when it comes to space exercises. Several countries have modelled their laws after those of the US. In addition, the government has signed four international space accords. The National Aeronautics and Space Act of 1958 established NASA and demonstrated to the rest of the world that the United States is prepared to develop and research space exploration and collect resources from space. The 2010 National Space Policy, 2013 National Space Transportation Policy is a space legislation of utmost importance in the USA

Another country that has done well in the field of space and has a solid legal structure for it is the United Kingdom. The United Kingdom Space Agency (UKSA), which was founded in 2010, is the agency in charge of space affairs in the UK. The British National Space Centre was superseded by the agency. The English government's space activities are described by two legal systems. The Outer Space Act of 1986, which is an instant application of international standards in English law, was prompted by international agreements in which the United Kingdom participated. The Space Industry Act, 2018, makes arrangements for space activities and suborbital activities and is essential in the UK.

CHAPTER 4

The New Age: Dawn of India's Space Law

Since its start in 1972, India's space activities have been wholly regulated by the department of space; before to that, the department of atomic energy was in charge of all administrative aspects of the country's space programme. Until recently, there was no need in India for a domestic space law or policy because outer space was viewed as more of an international matter

than a domestic one.

For a variety of reasons, the value of having a space law was never realised. India lacked a private sector that was ready or able to invest in the country's space objectives. Things have changed dramatically since then. The Indian government suggested dramatic reforms to the Indian Space Program last year, in May 2020. Critics claim that the government is looking to privatise the Indian Space Programme in the midst of a global pandemic. Dr. K Sivan, the chairman of the Indian Space Program, has repeatedly refuted this notion.

On June 24, 2020, the Indian government established IN-SPACe, a new organisation (Indian National Space Promotion and Authorisation Centre). IN-SPACe is a "single window nodal agency" created to help Indian space activities become more commercially viable. The controversy over the privatisation of India's space programme began as a result of the establishment of this council. The Indian government has also released a draught of the Space-based Communication Policy of India-2020 (Spacecom Policy-2020) as well as proposed standards, guidelines, and procedures for its implementation (Spacecom NGP-2020).

The SpaceCom Policy 2020 seeks to accomplish two goals. First and foremost, the policy will govern the commercial usage of satellites, orbital slots, and ground stations for communication purposes. This regulation also discusses how private companies might obtain permission to launch new communication satellites and ground stations.

India will be able to keep up with the expanding demand for satellite-based broadcasting, network connectivity, and worldwide mobile personal communication thanks to private participants in the space communication sector.

In the middle of the debate over privatising India's space programme, the Space Policy 2020 and the Space Activities Bill, 2017 are nearing completion. In the parliament's Monsoon Session this year, Union Minister Jitendra Singh stated that the government is actively considering the Space Activities Bill. According to an article in the Livemint, "The Minister of State for Atomic Energy and Department of Space said that the government is in the process of creating an ecosystem to encourage private participation in space and indigenous production of space technology, devices, and services," according to a written response to a question in the Rajya Sabha. To summarise, Indian space laws are on their way and will be here to stay.

Some of the crucial factors that the government would need to ensure are that regulatory clearances be issued in a timely way with minimal delays and that the government has minimal operational intervention to ensure that satellite communication can be implemented without any obstacles. IN-approach SPACe's of engaging with ISRO before making decisions should not result in bureaucratic delays or unwarranted intervention. Hopefully, the current reforms will result in a boost in satellite and rocket manufacture (which was previously solely vested in the ISRO) as well as an increase in space programmes.

It is important to note that, in addition to IN-SPACe, the government has established two other organisations, New Space India Limited (NSIL) and Antrix Corporation Limited (ACL), to encourage the establishment of Indian space companies and promote space activities. NSIL operates under DoS administrative administration and strives to commercialise ISRO and other DoS constituent units' research and development efforts. ACL, on the other hand, serves the same purpose. It is ISRO's marketing arm, and it strives to promote the commercialization of space technologies and technology transfer, as well as providing technical consulting services to customers all over the world.

The ideal of 'Digital India' and India being a space giant cannot be realised if there is no legal responsibility tied to it. A strong legal framework would boost investor confidence, attract FDI and new technologies, reduce administrative and regulatory uncertainty, provide clarity on stamp duty, registration requirements, insurance, property transfer, contractual obligations, space debris liability, and intellectual property rights, and promote space entrepreneurship by ensuring a level playing field for private entities. India's inadequate electronic manufacturing environment is also a key hindrance to ISRO's operations. Because there isn't a strong domestic electronics market, spaceship components must be imported in large quantities, which raises the cost of operations significantly.

The following are the main issues which need to be resolved in order to have proper space legislation in India:

1. Single Independent Regulator
2. Management of space debris
3. Liability for damage
4. Security measures
5. Intellectual property rights protection

CONCLUSION

While India's development is to be applauded, a comprehensive Space Act is still required. There are 22 countries with domestic space laws today, with Australia, Japan, and South Korea being the only Asia-Pacific countries to have national laws that implement international conventions. India must strive for it as well. This would operate as a stimulus for India's space activities to grow and be regulated in accordance with global space dynamics. As a result, a stable space regime is critical. Strong space legislation is all the more important in order to support the expansion of the Indian space sector and allow private companies to participate to making India a space superpower. In accordance with Articles 51 and 253 of the Indian Constitution, India must enact legislation that would not only enable public-private partnerships and quick technical growth, but also accelerate indigenisation and manufacturing within the country. In addition, to meet the present problems, the Satellite Communication Policy of 1997 and the Remote Sensing Data Policy of 2011 also need to be updated. However, care must be taken to ensure that the Indian space industry does not become unduly controlled, as this could inhibit future investment. Its disappearance could stifle India's future prosperity. To assure its formulation and implementation, we must take proactive efforts.

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