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LEGAL ASPECTS OF SPACE EXPLORATION

BLOG

BY- TEJASWI MEHTA

INTRODUCTION-

Space law is a specialized area of the legal field that focuses on international treaties, conventions, and United Nations resolutions related to the rules, principles, and standards that govern outer space. These laws address various legal issues, such as protecting land and the space environment, liabilities for damages caused by space objects, regulations for rescue operations for astronauts in case of accidents in outer space, and the problem of space debris resulting from abandoned satellites or rocket parts, which contributes to space pollution. As space exploration has advanced globally over the years, the need for space laws to regulate government space programs and corporate entities has grown. India has made significant strides in its space program with impressive achievements in its missions, yet it still lacks a solid domestic legal framework specifically governing the Indian Space Program.¹

ACHIEVEMENTS OF INDIA-

India kicked off its space program in the early 1960s, during a period when many major countries were also launching their own space initiatives. Dr. Vikram Sarabhai is recognized as the father of India's Space Programme. In November 1969, the Indian Space Research Organization (ISRO) was established, giving a formal structure to India's Space Programme. ISRO has successfully launched many space missions, starting with Aryabhata, which was India's first satellite. In 2008, India made history by launching its first lunar satellite, Chandrayaan-1, to conduct experiments on the moon's surface. Then in 2013, India achieved a significant milestone by sending the Mangalyaan satellite to Mars on its first try. In 2019, India launched another lunar mission called Chandrayaan 2 and is currently gearing up for Gaganyaan, which aims to send Indian astronauts into space for the first time. India has also partnered with international space agencies like NASA to enhance its space research and technology. Efforts are ongoing to develop technologies for more advanced space programs in the

¹ Abhishek Singh, **Space Laws – Indian Perspective**, CyberPeace (Jan. 24, 2023), <https://www.cyberpeace.org/resources/blogs/space-laws-indian-perspective>

future. By offering commercial satellite launch services, ISRO seeks to strengthen India's space sector and boost the economy.²

THE SPACE ACTIVITIES BILL OF 2017-

The Space Activities Bill of 2017 mainly focuses on India's space endeavors. This legislation establishes the primary framework for overseeing and authorizing various space activities carried out by both the government and private companies. It also sets regulations for different aspects of space activities, including licensing, registrations, safety protocols, security measures, and liabilities. The bill ensures that all space missions adhere to both national and international standards. While India lacks a solid domestic legal framework for space laws, it is a participant in several international treaties and agreements related to space, such as the Outer Space Treaty of 1967, which governs the peaceful use of outer space, promotes international cooperation, and aims to prevent harmful contamination from space debris. Additionally, the Space Activities Bill includes provisions for liabilities and insurance to cover damages caused by space objects. Although this bill lays the groundwork for developing space laws in India, a more thorough and comprehensive approach to space legislation is necessary, which would involve further legal enactments and complementary regulations. Space law encompasses a wide range of legal issues, including national security, environmental protection, intellectual property rights, and ethical considerations. Certain aspects of space activities, like managing space debris, effectively using space resources, and satellite communications, would be better regulated if they were treated as distinct sectors under the broader umbrella of space law, each with its own specific acts or regulations. Innovations in space technology development require strong intellectual property rights protection to encourage commercialization and growth, so specific laws should be created to address intellectual property rights exclusively.³

INTERNATIONAL FRAMEWORK-

India's space endeavours are significantly shaped by the space treaties established by the United Nations, which lay down the essential principles for governing outer space. The key International Space Treaties Endorsed or Signed by India are, Outer Space Treaty, 1967 – This treaty regulates the exploration and utilization of outer space for peaceful purposes and forbids any national claims of ownership, Rescue Agreement, 1968 – This agreement requires countries to help astronauts in trouble and ensure their safe return to the country that launched them, Liability Convention, 1972 – This convention sets out the responsibility for any damage caused by space objects, Registration Convention, 1976 – This convention mandates that countries must register their space objects with the United

² **Important Missions Launched by ISRO**, BYJU'S Exam Prep (Sept. 13, 2023),

<https://byjusexamprep.com/state-psc/isro-missions>

³ Kate Howells, *What Is the Outer Space Treaty?*, The Planetary Society (May 14, 2024),

<https://www.planetary.org/articles/what-is-the-outer-space-treaty>

Nations, Moon Agreement, 1979 – India has signed this agreement but has not yet ratified it; it governs activities on the Moon and other celestial bodies.⁴

LEGAL CHALLENGES-

The concept of space property rights faces significant challenges when national interests clash with the need for international collaboration. India must develop policies that align with global space agreements while also fulfilling its national responsibilities, particularly by creating an environment that supports start-ups and attracts investors. Another critical concern is liability. Accidents involving private satellites and potential collisions raise questions about who is legally responsible. The proposed space law in India for 2025 aims to clarify these issues by introducing licensing requirements that include obligations for insurance and liability coverage.

Additionally, the regulation will address several key matters: Establishing protection for inventions created in space through the intellectual property rights framework. Ensuring data privacy in satellite communications. Balancing peaceful exploration of space with the military uses of outer space. To effectively manage these challenges, a strong legal framework must integrate the ISRO legal system with the needs of the private space sector across all of India.

CONCLUSION-

As we move into the future, creating and implementing a complete framework of domestic space laws will be crucial for unlocking the full potential of space exploration, ultimately benefiting all of humanity. This will also strengthen India's sovereignty in the field of space research and exploration as a whole.

⁴ *Space Law in India: Who Owns What Beyond Earth?*, The Legal Veda (May 3, 2025), <https://legal-veda.com/space-law-in-india-who-owns-what-beyond-earth/>