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SPACE LAW: THE LAW OF OUTER SPACE

As humanity ventures beyond Earth, the potential for space mining becomes a reality, raising a host of legal questions and challenges. As we extend to reach to the cosmos it is pertinent to get to know exactly who owns those celestial bodies.

The United Nations defines Space Law as the body of law governing space-related activities. Space law, like general international law, is made up of a range of international agreements, treaties, conventions, and United Nations General Assembly resolutions, as well as international organisation norms and regulations. The phrase "space law" is most commonly linked with the norms, principles, and standards of international law found in the five international treaties and five sets of principles governing outer space adopted by the United Nations. In addition to these international treaties, several countries have national laws that control space-related activity¹.

There are many questions of contentions that make way for the need for space laws. Physical possession and demarcation are the foundations of traditional concepts of property rights on Earth. However, the vastness of space and the absence of distinct limits make it impossible to apply these principles. The absence of soil, which is a crucial component of traditional property, muddles the concept of ownership even further, which the space law seeks to answer. The potential discovery of precious resources such as rare metals, minerals, and water ice in space has piqued commercial interest. Without clear international norms, there is a possibility of competition and conflict over ownership and extraction of these resources, leading to a scenario akin to resource wars. As additional countries and corporate entities express interest in space mining, competing claims to the same celestial body may arise. The urge to harvest resources may result in unsustainable

¹ UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, Space Law (unoosa.org) (last visited January 15th, 2024)

activities that harm celestial bodies' environment. Thus, Space law is essential to avoid legal quandaries in the rapidly growing space mining field.

The five international treaties that make up the potpourri of Space Laws are The Outer Space Treaty (1967), which is a fundamental international agreement that aims to ensure the peaceful use of outer space and prevent the militarization of celestial bodies. The Rescue Agreement (1968), addresses the rescue and return of astronauts in distress and the return of space objects to the launching state. The Liability Convention(1972), addresses issues of international liability for damage caused by space objects. The Registration Convention (1975), focuses on the registration of objects launched into outer space. The Moon Treaty (1979), governs state activities on the Moon and other celestial bodies.

In 1958, India became a member of the General Assembly's ad hoc Committee on the Peaceful Uses of Outer Space (COPUOS) and its numerous subcommittees (one scientific and one technical), the only global forum for space development, International Outer Space Law. In 2020, the Government of India launched reforms in the space sector, paving the way for increased participation of NGEs in carrying out end-to-end activities in the space domain and aiming to provide them with a level playing field.

Following these reforms, the government wants to provide regulatory certainty to all stakeholders involved in space operations to develop a healthy space ecosystem.

The Indian Space Policy - 2023 has thus been established as an overarching, composite, and dynamic framework for implementing the Cabinet-approved reform objective. According to Union Minister Dr. Jitendra Singh, India ranks sixth among spacefaring nations in terms of end-to-end capability in space research and development. With this 2023 policy the government shall concentrate on encouraging advanced research and development in the space sector to sustain and expand the space programme, providing public goods and services for national priorities through the use of space technology, IN-SPACE is developing a stable and predictable regulatory framework to provide a level playing field to non-governmental entities in the space sector, promoting space-related education and innovation, particularly assistance to start-ups in the space industry, using space as a catalyst for total technological growth, cultivating scientific temperament in society, and increasing public awareness of space operations².

² INDIAN SPACE POLICY, 2023 IndianSpacePolicy2023.pdf (isro.gov.in) (last visited January 15th, 2024)

The enormity of space, as well as the difficulties involved in discovering and utilising celestial bodies, necessitate international cooperation. Space exploration and operations, including space mining, are essentially collaborative and involve a global commons. Many space endeavours necessitate significant resources and skill. International cooperation enables nations to pool their resources and share the costs of large-scale projects like space exploration, satellite deployment, and possible space mining operations. Space is a frontier for scientific exploration. Collaboration allows scientists and academics from different countries to collaborate, share data, and collectively enhance our understanding of the universe. Innovative technologies are frequently developed and applied in collaborative space missions. Sharing scientific discoveries accelerates progress and fosters global innovation. Mining activities, even in space, can have an impact on the ecosystem. International cooperation is vital in formulating legislation and standards to reduce the environmental impact of space mining operations.

Despite global advances in space law, significant obstacles remain in the sphere of space activity. Space treaties do not have strong enforcement procedures. While international cooperation is welcomed, there is no formalised framework in place to enforce compliance or resolve conflicts, especially when private entities are involved. Private enterprises' increased involvement in space activities raises regulatory issues. Space law is struggling to keep up with the commercial space sector's rapid growth, resulting in regulatory loopholes for activities such as space tourism, asteroid mining, and satellite mega-constellations. With the proliferation of satellites and increased space travel, preventing collisions and managing orbital debris have become critical concerns. The lack of standardised regulations for space traffic management and debris mitigation endangers both current and future space missions. Contrary to the principles specified in space treaties, the potential militarization of space and the exploitation of space assets for security objectives pose obstacles to the peaceful use of outer space. Anti-satellite (ASAT) weapon development and other space-related security issues remain unresolved. While space accords address the non-appropriation of celestial bodies, resource utilisation remains a difficult issue. The ownership of minerals produced from heavenly bodies is still being debated, especially with the advent of space mining technologies.