Need for National Space Law

Mains: *GS III – Science and technology*

Why in News?

Recently, The Indian Space Research Organization (ISRO) with the Indian Navy successfully carry out the Well Deck trials of the Gaganyaan missions's crew module at Eastern Naval Command using welldeck ship off the coast of Visakhapatnam.

What is Space law?

- **Definition** – According to United Nations office for outer space affairs (UNOOSA) Space law is a body of law governing activities in outer space.
- This includes the exploration, use, and liability for space objects.
- **Components** – This includes collection of international agreements, treaties, and national laws that aim to ensure responsible and peaceful space activities while fostering international cooperation.
- **UN treaties** – The five primary United Nations treaties on outer space are
    - The Outer Space Treaty (1967)
    - The Rescue Agreement (1968)
    - The Liability Convention (1972)
    - The Registration Convention (1974)
    - The Moon Agreement (1979).
- The core United Nations treaties on outer space provide the foundational principles for all space activities, from the peaceful use of outer space to the responsibility and liability of states.

- **The Outer Space Treaty of 1967** – It establishes that space is the province of all humankind, prohibits national appropriation.
- It places responsibility on states for national activities in space, whether conducted by government or private entities.
- Its companion agreements create binding frameworks of rights, responsibilities, and liability rules.

What is the need for national space law?

> *"**A nation** with a strong base in science and technology is a nation with a strong backbone" — these words of A.P.J. Abdul Kalam.*

- **Provides thrust to space activities** – In the race to explore, innovate, and commercialise outer space, the law is the Launchpad for sustainable, equitable, and safe space activities.
- **Creates an enforceable structure** – Space policy may signal intent but law is what creates an enforceable structure.
- **Ensures compliance** – Policies can guide and inspire but only statutory law can mandate compliance and provide legal certainty.
- **Offers stability** – National space legislation offers predictability, legal clarity, and a stable regulatory environment for both government and private actors.
- **Implements international treaties** – It operationalizes international commitments, enables effective oversight, and embeds sustainability into everyday practice.

- National legislation is the means by which nations can give effect to the international principles domestically.
- **Promotes accountability** – It ensures that the growing space sectors develop in a safe, sustainable, and internationally responsible way.
- **Attracts investments** – The legal clarity fosters investment and innovation for industry.
- **Provides tools** – It offers tools to manage activities responsibly in line with the applicable global framework for regulators
- **Global examples** – Japan, Luxembourg, and the US have enacted frameworks to facilitate licensing, liability coverage, and commercial rights over space activities and resources.
- **Indian scenario** – India has ratified the key UN space treaties but it is still in the process of enacting comprehensive national space legislation that fully operationalises these international commitments.

What are components of India's regulatory evolution?

- **India's approach** – India's approach to space legislation reflects a methodical, incremental strategy.
- **Two components** – The national space legislation includes two cardinal interdependent aspects
    - Technical regulations
    - Regulatory framework
- **Technical regulations** – It governs space operations in orbit by commercial entities.
- This is the first aspect of authorisation process under Article VI of the Outer Space Treaty.
- The Department of Space is proceeding meticulously in this matter.

- This methodical approach has yielded concrete regulatory developments, including
    - The Catalogue of Standards for the Space Industry which is critical for ensuring the safety of space operations.
    - The Indian Space Policy, providing details of activities that non-governmental entities are encouraged to undertake in 2023.
    - The IN-SPACe Norms Procedure Guidelines (NPG) for Authorisation to implement the Space Policy in 2024.

***IN-SPACe** has addressed certain ground segment activities and establishing satellites in orbit.*

- NPG for launch vehicles and other aspects will undoubtedly be issued in due course.
- **Regulatory framework (textual part)** — This is the space activities law that will contain provisions of the OST that are meticulously, carefully, appropriately drafted.

What are the challenges?

- **Operational challenges** – From the industry's standpoint, the current regulatory transition creates significant operational challenges.
- **Delay in clearances** – The dual-use nature of space technologies creates particular complications, with companies facing delays from multiple ministry clearances even after provisional approvals.
- **Lack of formal background** – IN-SPACe, which currently operates without formal legal backing, requires clear statutory authority to strengthen its role as the central regulatory body.
- **Absence of political consent** – The risk to the Outer Space Treaty is the absence of political consensus consequent to big power contestations among the three military space super powers.
- **Geopolitical issues** – The greater threats to space governance emerge from international geopolitical tensions rather than national legislative delays.

What are the priorities for the national space law?

- **Statutory authority** – The fundamental priority of the national space law is the setting up of a statutory authority to give a legal backing.
- **Strong regulations** – The national space law should clearly set out licensing rules, qualifications, application processes, timelines, fees, and reasons for acceptance or denial, to avoid unnecessary delays and confusion from multiple ministry approvals.
- **Clear FDI rules** – It includes allowing 100% FDI in satellite component manufacturing under automatic routes, would attract critical capital for startups to scale operations.
- **Vibrant liability frameworks** – While India is ultimately responsible internationally, private companies must hold proper third-party insurance to cover any damages.
- It should create affordable insurance frameworks for startups managing high-value space assets.
- **Transparency** – The law should lay out transparent steps for reporting incidents and handling claims.
- **Protection of innovation** – Legislation should secure intellectual property rights without excessive government control.
- This balanced approach would prevent migration of talent and technologies to more IP-friendly jurisdictions.
- **Encourage partnerships** – It should encourage collaborations among industry, academia, and government, and foster investor trust.
- **Binding safety standards** – There should be a mandatory accident investigation procedures, enforceable space debris management laws.
- It also includes unified frameworks for space-related data and satellite

communications, and an independent appellate body to prevent conflicts of interest.

What lies ahead?

- Without statutory backing, IN-SPACe's regulatory decisions remain vulnerable to procedural challenges, creating uncertainty for private players navigating India's growing commercial space ecosystem.
- With the International Astronautical Congress meeting in Sydney this year and potentially in India in the near future, the timing is significant for India.

Reference

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