EDITORIAL: CONSTITUTING THE COSMOS: GLOBAL CONSTITUTIONALISM, PUBLIC TRUST, AND THE REGULATION OF OUTER SPACE IN INDIA

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As the Indian Space Research Organisation opens itself to private players, the privatisation of India's space sector must be constitutionally sound, democratically supervised, and designed to protect both public interest and individual rights. Using precedents such as the 2G Spectrum and Coalgate cases, this article contends that space resources like orbital slots, spectrum, and launch infrastructure must be allocated through transparent, non-arbitrary mechanisms. It also examines privacy and data governance challenges posed by remote sensing, geospatial technologies, and the Digital Personal Data Protection Act, highlighting risks of unchecked state and potentially, private surveillance, all through the lens of reasonability and the public trust doctrine. Internationally, it critiques the lacunae in the Outer Space Treaty and the selective applicability of instruments like the Artemis Accords, calling for stronger global accountability measures within the country.

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"If you want to keep it a secret, you must also hide it from yourself."
- George Orwell, 1984

INTRODUCTION

India's space sector stands at an inflection point. Once solely a domain of state-led innovation through the Indian Space Research Organisation ***("ISRO")***, the industry is now witnessing rapid de-regulation. With a projected leap from USD 8.4 billion in 2022 to an estimated USD 44 billion by 2033,[3] India aims to capture 8% of the global space economy,[4] which is expected to exceed USD 1.8 trillion by 2035.[5]

To achieve this, India has opened its space sector to private and foreign investment, enabling the entry of new space startups like Pixxel, Agnikul, Digantra and Bellatrix Aerospace[6] and has eased barriers through deregulation, public-private partnerships,[7] and foreign direct investment of up to 100%.[8] Initiatives such as the establishment of Indian National Space Promotion and Authorization Centre ***("IN-SPACe")*** and the Indian Space Policy, 2023 represent this shift toward market-driven expansion. The Indian Space Policy 2023 serves as an "*overarching, composite and dynamic*

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[3] FEDERATION OF IND. CHAMBERS OF COM., UNLOCKING INDIA'S SPACE ECONOMY - PATHAWAYS TO GROWTH, INNOVATION AND GLOBAL LEADERSHIP (2025), https://www.ficci.in/study_details/24075.

[4] Press Release, *Empowering India's Space Economy: Rs. 1,000 Crore Venture Capital Fund Initiative for Innovation and Growth*, PRESS INFORMATION BUREAU (Oct. 25, 2025), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2068155.

[5] *Supra* note 3.

[6] Press Release, *India's Share in Global Space Economy to Rise 4 Times By 2030: Mos Department Of Spacecraft*, PRESS INFORMATION BUREAU (Jun. 20, 2024), Https://Www.Pib.Gov.In/Pressreleasepage.Aspx?PRID=2027137.

[7] Press Release, *Parliament Question: Cooperation with Private Sector in Space Development*, Press Information Bureau (Mar. 26, 2025), Https://Www.Pib.Gov.In/Pressreleasepage.Aspx?Prid=2115227.

[8] Press Release, *Cabinet approves amendment in the Foreign Direct Investment (FDI) policy on Space Sector*, PRESS INFORMATION BUREAU (Feb. 21, 2024), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2007876.

framework" to regulate and implement private sector participation, and foster a thriving space ecosystem.[9] Additionally, IN-SPACe was established pursuant to the Space sector reforms to promote, authorise, and supervise private players' participation in India's space activities. It acts as an interface between ISRO and non-governmental entities.[10]

However, this privatisation drive is not without constitutional and ethical implications. Space, as a frontier of both natural resources and sensitive data, demands governance that balances commercial interest with public accountability. The allocation of Indian National Space Promotion and Authorization Center-orbital slots, access to launch infrastructure, and control over satellite-generated data raise pressing questions about surveillance, data protection, national sovereignty, and just distribution. Without adequate legislative safeguards, privatisation risks reinforcing regulatory opacity and facilitating the monopolisation of common resources.

The authors argue that the privatisation of India's space sector must be constitutionally sound, democratically supervised, and designed to protect both public interest and individual rights. Using Articles 14, 21, and 39(b) of the Constitution as normative touchstones, the paper examines the legal, regulatory, and ethical implications of increased private participation in space. It contends that while innovation and investment are essential, they must be guided by principles of fairness, transparency, and constitutional accountability.

This article is divided into four parts. Part I interrogates the constitutional and regulatory implications of space privatisation in India, Part II examines privacy and data governance challenges, Part III analyses global legal silences and India's international obligations, and Part IV concludes with the way forward for constitutionally sound and democratically accountable space governance.

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[9] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Preamble, ¶1 (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

[10] Department of Space, *Indian National Space Promotion and Authorisation Centre (IN-SPACe)*, INDIAN SPACE RESEARCH ORGANISATION, https://www.isro.gov.in/IN-SPACe.html.

CONSTITUTIONAL PRINCIPLES AND REGULATORY CHALLENGES

Through this section, the authors shall test the privatisation of the Indian space sector on the anvil of Articles 14, 21, and 39(b) of the Constitution of India. The authors believe that the privatisation process must adhere to these constitutional provisions to ensure that it is democratically supervised and in the best interests of the public.

A. ARTICLE 14 AND THE EQUALITY IMPERATIVE IN ALLOCATION OF SPACE RESOURCES

Article 14 of the Constitution of India guarantees equality before law.[11] Embedding the principles of fairness and non-arbitrariness, Courts have struck down state actions that do not adhere to these principles.[12] Such state actions include fair distribution of the State's resources.[13] In context of the Indian space industry, complying with Article 14 of the Constitution indicates equal distribution and access to resources[14] which may be construed to include orbital slots, radio frequencies for satellites, and the ability to launch facilities to name a few.[15] Such allocation shall be fair and

[11] INDIA CONST. art. 14.

[12] E.P. Royappa v. State of T.N., (1974) 4 SCC 3; Maneka Gandhi v. Union of India, (1978) 1 SCC 248.

[13] Centre for Public Interest Litigation v. Union of India., (2012) 3 SCC 104; Manohar Lal Sharma v. Principal Secretary, (2014) 9 SCC 516.

[14] Herein, the authors interchangeably refer to natural resources and material resources. Space-industry related resources are an intersection of both since they are naturally occurring and finite in nature due to which they are judiciously allocated to States as per an international framework (ITU). Moreover, they may also involve man-made installations in space or on ground which are 'material' in nature due to their high economic value and public utility. Therefore, space-related resources cannot be strictly categorized.

[15] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 4 (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

transparent, lest preferential treatment of certain private entities shall be violative of Article 14.

In 2008, the infamous *2G Spectrum case* raised concerns of arbitrary allocation of spectrum (a natural resource) by the then government in power; in favour of certain telecom companies.[16] Such allocation was struck down by the Supreme Court as being violative of Article 14 and led to the cancellation of 122 licences granted to specific telecom companies.[17] The State, as trustee of the public's resources, must allot them through methods "*guided by… justice, fairness, equality and larger public good.*"[18] Such methods could be an auction or payment of license fee or any method that is considered transparent and fair for the distribution of that specific resource.[19]

Drawing an analogy to other space related resources, the Indian Space Policy, 2023 ("***Space Policy***") provides that the government aims to *"provide public goods and services through space technologies for national priorities"*[20] The terms 'public goods and services', 'space technologies' and 'national priorities' remain unexplained. It is unclear as to which resources classify as public goods and services, whether it is linked to article 19(6) of the Constitution, and what is covered under the ambit of space technology. Similarly, allocation of resources based on 'national priorities' is unclear as well. Moreover, Point 3(ii) states that IN-SPACe shall develop a 'stable and predictable regulatory framework' to provide a level-playing field to private players in the space sector. While this move is welcomed and appreciated, it is unclear on what the framework shall entail, or how existing private players in the space industry are complying to norms. The authors believe

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[16] Centre for Public Interest Litigation. v. Union of India, (2012) 3 SCC 10.

[17] *Id.* ¶81(i).

[18] Abhishek Malhotra, *Satellite Spectrum Allocation – Is Auction the Legal Mandate?*, SIA INDIA (Sep. 22, 2023), https://www.sia-india.com/corner/satellite-spectrum-allocation-is-auction-the-legal-mandate/.

[19] Ayushi Kar, *Spectrum for satellite broadband services to be auctioned, not allocated*, THE HINDU BUSINESS LINE (Dec. 02, 2021), https://www.thehindubusinessline.com/info-tech/spectrum-for-satellite-broadband-services-to-be-auctioned-not-allocated/article37804619.ece.

[20] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 3(i) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

that the policy serves merely as a visionary framework rather than delineating the exact steps the various governing bodies of DoS intend to take to execute the Space Policy. In light of a vague policy, it is likely that the distribution of resources shall be unchecked, and may not pass the "reasonableness" test of Article 19(6) of the Constitution, thereby leading to a potential violation of Article 14 and Article 19(6) of the Constitution respectively.

It is pertinent to note that while the Outer Space Treaty ("***Treaty***") adopted by the United Nations General Assembly promotes the sharing of space resources,[21] each country is assigned certain finite resources which lie exclusively under their national control (for instance, radio spectrum and orbital positions).[22] The Supreme Court in *Secy., Ministry of Information & Broadcasting, Govt. of India v. Cricket Association of Bengal*,[23] though pertaining to Article 19(1)(a) of the Constitution made an observation that *"airwaves or frequencies are a public property"*[24] that must be controlled and regulated in the public interest.[25] By extension of logic, space resources such as radio spectrum and orbital positions are a State's 'material' assets which shall not be permitted to be monopolised or guaranteed based on whims of specific private players.

Moreover, the Supreme Court, in the *Coalgate scandal case*[26] dealt with the invalidation of numerous licenses of coal block allocation. Such allocation was held to be malafide and arbitrary as per Article 14 of the Constitution

[21] Treaty On Principles Governing The Activities Of States In The Exploration And Use Of Outer Space, Including The Moon And Other Celestial Bodies, Art. I, (Jan. 27, 1967), 610 U.N.T.S. 205 (Entered into force on Oct. 10, 1967).

[22] INT'L TELECOMM. UNION, GUIDANCE ON THE REGULATORY FRAMEWORK FOR NATIONAL SPECTRUM MANAGEMENT (2021), https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-SM.2093-4-2021-PDF-E.pdf.

[23] Secy., Ministry of Information & Broadcasting, Govt. of India v. Cricket Association of Bengal, (1995) 2 SCC 161.

[24] *Id.* ¶122(i).

[25] *Id.* ¶¶ 55, 122(i).

[26] Manohar Lal Sharma v. Principal Secretary & Ors (2014) 9 SCC 516.

since the allotment was made on a 'friendly' basis.[27] Drawing an analogy, apart from space resources, the on-ground launch facilities (for instance, launch pads at Sriharikota) have been built using public funds.[28] Such state land shall also be subject to fair and transparent allocation, upholding Article 14 of the Constitution.

With reference to Satellite Communication Norms, Guidelines and Procedures ***("SATCOM norms")*** and Telecommunications Act of 2023, the committees and bodies exercise wide discretionary powers since there are no prescribed timelines for authorising satellite system launches, nor is there a clear policy framework guiding the use of such discretion.[29] This lack of procedural clarity raises serious concerns under Article 14 of the Constitution. This lack of clarity has weakened investor confidence and stalled the growth of space startups.[30]

Adding to the hesitancy of fair allocation is the existing organisational structure of IN-SPACe that serves as an 'autonomous' body under the Department of Space ***("DoS")***.[31] The DoS is headed by the Chairman of ISRO. This raises questions on the 'autonomy' of IN-SPACe and appears paradoxical to its vision of promoting and giving a free-hand to private sector players in an existing centrally-governed industry.

Moreover, the regulatory framework for space activities like SATCOM norms, Remote Sensing Data Policy, 2011 ("***RSDP***") and technology

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[27] Gautam Bhatia, *Coalgate and Judicial Review of Distribution of Natural Resources*, I. CON. L. PHIL., (Aug. 31, 2014), https://indconlawphil.wordpress.com/2014/08/31/Coalgate-And-Judicial-Review-Of-Distribution-Of-Natural-Resources/.

[28] Press Release, *First Private Launchpad & Mission Control Center Established in ISRO Campus at SDSC, SHAR*, INDIAN SPACE RESEARCH ORGANISATION (Nov. 28, 2022), https://www.isro.gov.in/first_private_launch_mission_control.html; Press Release, *Cabinet approves the establishment of "Third Launch Pad"*, PRESS INFORMATION BUREAU (Jan. 16, 2025), https://www.isro.gov.in/CabinetapprovesThirdLaunchPad.html.

[29] Prashanti Upadhyaya, *Necessity for the enactment of space law in India*, LEGAL INDIA (Mar. 18, 2016), http://www.legalindia.com/necessity-enactment-space-law-india/.

[30] IBW Team, *Space Investor Community Stress on Need for Regulatory Certainty in India,* INDIAN BROADCASTING WORLD (Jul. 26, 2023), https://www.indianbroadcastingworld.com/space-investor-community-stress/.

[31] Department of Space, *Indian National Space Promotion and Authorisation Centre (IN-SPACe)*, INDIAN SPACE RESEARCH ORGANISATION, https://www.isro.gov.in/IN-SPACe.html.

transfer policies of ISRO provides an inkling that despite the presence of Antrix (the commercial arm of ISRO), ISRO and DoS, the government is the 'operator as well as a regulator resulting in a virtual monopoly'.[32] This creates an inherent conflict of interest, since the same authority that regulates private entities is also their competitor in commercial activities.

It is noted that the government has complete control over authorisation of space launch and allocation of spectrum/orbital spot. The exercise of such control is unexplained and remains discretionary.[33] The Indian Space Policy of 2023 states that IN-SPACe will '*hand- hold'* space operations in India[34] and aim to balance the interests of Government entities and Non-governmental entities (which shall include private sector players) in ITU filings for orbital positions.[35] Contrarily, Point 4.13 of the Policy gives undefined power to NGEs to carry out commercial recovery of asteroids.[36] Claims of hand-holding, balancing interests and unbridled power to private players; all remain unsubstantiated and unclear on how they would be parallelly executed, causing further hesitancy to the 'autonomy' on IN-SPACe.

More importantly, policies affecting public resources and common good should ideally be vetted by the Parliament. However, India's Space Policy 2023 was not placed or discussed in Parliament, thereby bypassing the democratic process. Hopefully, in light of the redrafting of the Space

[32] *Supra* note 27.

[33] Prashanti Upadhyaya, *Necessity for the enactment of space law in India*, LEGAL INDIA (Mar. 18, 2016) http://www.legalindia.com/necessity-enactment-space-law-india/; Ananye Krishna, *Space Law and India*, THE RMLNLU L. REV. BLOG (Jun. 30, 2016), https://rmlnlulawreview.com/2016/06/30/space-law-and-india/#_ftn5.

[34] Indian Space Policy 2023.DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 5 (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

[35] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 5(12) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

[36] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 4(13) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

Activities Bill after eight years,[37] the above-mentioned inconsistencies and disparities can be resolved. IN-SPACe shall emerge as a regulatory body with statutory powers granted through an Act of Parliament once the newly drafted Bill is approved.[38]

IN-SPACe facilitates technology transfers of propellants, electric/electrical components, chemical formulations etc. to the private sector.[39] As of December 2024, IN-SPACe has signed 75 technology transfer agreements[40] and 10 more as of 3rd July, 2025.[41] Therefore, private sector companies can secure rights to such technologies that have been developed and improved upon by ISRO during their research or space missions. This shall benefit companies working on space-related projects and also lower the entry barrier for them.[42]

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[37] Ankit Tiwari, *A New Draft For The Space Activities Bill: Amidst A Sea-Change in India's Space Sector*, COUNCIL FOR STRATEGIC AND DEFENSE RESEARCH (Jun. 9, 2025), https://Csdronline.Com/Blind-Spot/A-New-Draft-For-The-Space-Activities-Bill-Amidst-A-Sea-Change-In-Indias-Space-Sector/.

[38] *Id.*

[39] DEP'T OF SPACE, GOV'T OF IND., Technology Transfer (2025), https://www.isro.gov.in/media_isro/pdf/resourcespdf/technology_transfer_august_2022.pdf; Abhishek Dubery & Sagnik Sarkar, *The Indian Space Industry: Key Regulatory And Policy Developments From 2024*, TRILEGAL (Feb. 10, 2025) Https://Trilegal.Com/Knowledge_Repository/Trilegal-Update-The-Indian-Space-Industry-Key-Regulatory-And-Policy-Developments-From-2024/.

[40] Press release, *Parliament Question: Foreign Direct Investment in the Space Sector*, PRESS INFORMATION BUREAU (Mar. 12, 2025) https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2110835.; *ISRO, IN-SPACe & NSIL sign five tech transfer pact with non-governmental entities*, THE ECONOMIC TIMES (Sep. 20, 2024) https://economictimes.indiatimes.com/news/science/isro-in-space-nsil-sign-five-tech-transfer-pact-with-non-governmental-entities/articleshow/113529628.cms?from=mdr.

[41] Shine Jacob, *In-Space Transfers 10 ISRO Technologies To Private Sector For Space Growth*, BUSINESS STANDARD (Jul. 03, 2025), https://www.Business-Standard.Com/Technology/Tech-News/Inspace-Transfers-10-Isro-Technologies-To-Private-Sector-125070300993_1.html.

[42] Abhishek Dubery & Sagnik Sarkar, *The Indian Space Industry: Key Regulatory And Policy Developments From 2024*, TRILEGAL (Feb. 10, 2025) https://Trilegal.Com/Knowledge_Repository/Trilegal-Update-The-Indian-Space-Industry-Key-Regulatory-And-Policy-Developments-From-2024/.

While private participation offers significant potential benefits, unless guided by a fair and transparent framework, private participation in space risks arbitrariness in allocation, thereby undermining Article 14 of the Constitution.

B. ARTICLE 39(B) AND THE PUBLIC TRUST DOCTRINE

Article 39(b) of the Constitution states *"the ownership and control of the material resources of the community are so distributed as best to subserve the common good."*[43] Coupled with the public trust doctrine, which has been read into Article 21 and 48A, imposes a responsibility on the State to ensure that natural resources are not depleted or destructed; rather used wisely. The ambit of "resources" covered under Article 39(b) of the Constitution read with the public trust doctrine is widened by Courts to include natural resources such as spectrum[44] and natural gas.[45]

Though Courts have not specifically linked the Public Trust Doctrine and space resources through any judicial precedent, space-based resources, though intangible (as seen in the case of 2G Spectrum case) can be viewed as "*material resources of the community*" as per Article 39(b) of the Constitution due to its economic value and utility. For instance, orbital slots in the geostationary arc (vital for communications and broadcasting) are limited "positions" allocated to countries through ITU coordination, spectrum for satellite services (C-band, Ku-band, etc.) resemble a scarce resource and shall be distributed judiciously. Such resources shall be used for the common good. Privatising the space sector without safeguards on judicial use of these resources might prioritise a few private interests, rather than equitably benefiting all.[46]

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[43] INDIA CONST. art. 39(b),

[44] Centre for Public Interest Litigation & Ors. v. Union of India & Ors., (2012) 3 SCC 10.

[45] Union of India v. Reliance Industries Ltd., (2023) SCC OnLine Del 2666.

[46] M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388.

Therefore, Article 39(b) and the Public Trust Doctrine provide a constitutional compass for space policy. The State must act as guardian of space resources, ensuring their distribution maximizes public welfare. While the authors do not oppose privatization, they believe that distribution must be keeping public good in mind apart from fairness and transparency that has been covered by the authors in the previous section.

Therefore, to address the common concerns under Articles 14 and Article 39(b), the solution lies in *first*, vesting statutory powers with IN-SPACe through the Space Activities Bill, to overcome the conflict of being both operator and regulator. *Second*, allocation of orbital slots, spectrum and launch facilities must be guided by transparent methods, as mandated in the 2G Spectrum and Coalgate cases, thereby minimising discretion. *Third*, the Space Policy requires Parliamentary scrutiny and clear definitions of terms such as "public goods," "space technology," and "national priorities" to ensure democratic legitimacy. *Finally*, the Public Trust Doctrine should be explicitly recognised in the allocation of space resources, mandating that any private participation demonstrably subserves the common good.

C. ARTICLE 21: IN-SPACE, ISRO, AND THE ILLUSION OF REGULATORY AUTONOMY

Article 21 of the Constitution guarantees right to life and personal liberty to persons.[47] Article 21 extends to protecting privacy of the individuals as laid down by the Supreme Court.[48] Drawing an analogy, the increasing participation of private players in satellite remote sensing, Earth observation and communication (for instance, Pixxel),[49] raises privacy concerns. Moreover, concerns of cyber-attacks have been prevalent in the space sector.[50] NASA reported over 6,000 cyberattacks between 2017 to

[47] INDIA CONST. art. 21.

[48] K.S. Puttaswamy (Privacy-9J.) v. Union of India, (2017) 10 SCC 1.

[49] Julia Seibert, *Top Private Space Companies In India & Industry Landscape*, SPACE INSIDER (Sep. 25, 2025) https://Spaceinsider.Tech/2023/07/12/Private-Space-Companies-In-India/.

[50] Ka-Sat Network Cyber Attack Overview, VIASAT (Mar. 30, 2022), https://www.Viasat.Com/Perspectives/Corporate/2022/Ka-Sat-Network-Cyber-Attack-Overview/; Valerie Insinna & Zeba Siddiqui, *Boeing Says 'Cyber Incident' Hit Parts Business After Ransom Threat,* REUTERS (Nov. 2, 2023)

2021.[51] In 2023, 16th C0C0N cyber-conference, Mr. S. Somanath, the Chairman of ISRO, revealed that ISRO faced over 100 cyber-attacks daily.[52]

In this context, remote sensing refers to the capturing of images by telescopes, satellites and rovers from a distance. Such images of the Earth or other planetary bodies provide valuable scientific insights. It helps study other planets, monitor Earth's climate/atmosphere/topography and any other natural movement. Apart from its usage for research and development purposes, it is also helpful in communication, navigation, weather forecasting and national security purposes. Such high-resolution imagery may contain "*sensitive information, and proprietary technologies, that, if compromised, can have far-reaching consequences*".[53]

In the process of gathering data and capturing images, it may transcend into gathering personal data of individuals via their movement, activities etc. without their knowledge. Further on, it is the State's duty to protect the rights of all persons even against private players. In furtherance of the same, the Government of India formulated the Remote Sensing Data Policy in 2011 ***("RSDP")***.[54]

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https://www.Reuters.Com/Business/Aerospace-Defense/Boeing-Investigating-Cyber-Incident-Affecting-Parts-Business-2023-11-01/.

[51] The National Aeronautics Space Administration, Nasa's Cybersecurity Readiness, Report No. ig-21-019 (2021), https://Oig.Nasa.Gov/Wp-Content/Uploads/2024/02/Ig-21-019.Pdf.

[52] The Hindu Bureau, *Chairman Calls For Strong Cybersecurity Knowledge Base*, THE HINDU (Oct. 7, 2023) https://www.thehindu.com/News/Cities/Kochi/Isro-Chairman-Calls-For-Strong-Cybersecurity-Knowledge-Base/Article67393468.Ece.

[53] Team of AMLegals, *Protecting Space: Privacy Challenges in Satellite Imaging and Surveillance*, AMLEGALS (May 15, 2025) https://amlegals.com/protecting-space-privacy-challenges-in-satellite-imaging-and-surveillance/#.

[54] DEP'T OF SPACE, GOV'T OF IND., REMOTE SENSING DATA POLICY, (2011).

The RSDP classifies remote sensing data by resolution and sensitivity, and imposes tiered restrictions on higher-resolution data.[55] All imagery of ground resolution up to 1 meter is freely distributable on a non-discriminatory basis, as "requested" by users.[56] However, imagery sharper than 1 m (i.e. < 1 m ground sampling distance) is labelled as "sensitive". Such data must be screened and cleared by an inter-agency High Resolution Image Clearance Committee (***"HRC"***) before distribution.[57] In practice, even for 1 m images, the data is pre-screened to mask sensitive areas (like military installations) prior to release.[58] Government users (and those recommended by the government) can get high-resolution data relatively easily, but private, foreign or online services require case-by-case HRC clearance for < 1 m imagery.[59] Earlier, even 1m data was heavily restricted by the Government (only imagery coarser than 5.8m was freely accessible for NGE), which was eventually liberalised due to technological advancement.[60]

Unlike RSDP's clearance model, Indian players now require no prior approvals, relying instead on self-certification.[61] The Clarifications to Geospatial Guidelines, 2022 further restricted foreign access by prohibiting

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[55] DEP'T OF SPACE, GOV'T OF IND., REMOTE SENSING DATA POLICY, Point 4 (2011), https://www.nrsc.gov.in/EOP_irsdata_Policy/page_3?language_content_entity=en#:~:text=,by%20one%20Government%20agency%2C%20for.

[56] DEP'T OF SPACE, GOV'T OF IND., REMOTE SENSING DATA POLICY, Point 4(a) (2011), https://www.nrsc.gov.in/EOP_irsdata_Policy/page_3?language_content_entity=en#:~:text=,by%20one%20Government%20agency%2C%20for.

[57] DEP'T OF SPACE, GOV'T OF IND., REMOTE SENSING DATA POLICY, Point 4(b)(4) (2011),https://www.nrsc.gov.in/EOP_irsdata_Policy/page_3?language_content_entity=en#:~:text=,by%20one%20Government%20agency%2C%20for.

[58] Suvrat Kher, *Indian Remote Sensing Data Policy Has Been Updated*, SUVRATK BLOGSPOT (Jul. 7 2011), http://suvratk.blogspot.com/2011/07/indian-remote-sensing-data-policy-has.html.

[59]DEP'T OF SPACE, GOV'T OF IND., REMOTE SENSING DATA POLICY, Point 4(b)(3) (2011),https://www.nrsc.gov.in/EOP_irsdata_Policy/page_3?language_content_entity=en#:~:text=,by%20one%20Government%20agency%2C%20for.

[60] Kher, *supra* note 58.

[61] DEP'T OF SPACE, GOV'T OF IND., GUIDELINES FOR ACQUIRING AND PRODUCING GEOSPATIAL DATA AND GEOSPATIAL DATA SERVICES INCLUDING MAPS, Point 8 Explanation (viii) (2021), https://www.surveyofindia.gov.in/UserFiles/files/document-49301-New%20Guidelines%20on%20Geospatial%20Data.pdf

finer-than-threshold data from reaching overseas servers, mandating domestic storage and API-based licensing.[62] While these reforms liberalised

geospatial activity for Indian firms, they shifted the emphasis from case-by-case state vetting to post-facto compliance, raising concerns on privacy and surveillance safeguards.

On the other hand, the Indian Space Policy, 2023 aims to make efforts to encourage the broadest possible dissemination of remote-sensing data and applications based on the same.[63] IN-SPACe authorisation is required for dissemination of satellite based remote sensing data of high resolution (Ground sampling distance<=30 cm), owing to national security considerations. Data above GSD>30 cm needs intimation to IN-SPACe.[64] Unlike RSDP the thresholds of data categorisation as high resolution under the Indian Space Policy of 2023 shall be reviewed from time to time.[65] Additionally, the policy permits open data access from remote sensing satellites of ISRO.[66] Remote sensing data of GSD of less than 5 meter, shall be made available free of any charges to Government entities but at fair and transparent pricing to NGEs.[67]

In the following sub-section, the authors shall analyse the challenges in enforcement of the above-mentioned frameworks and the applicability of the Digital Personal Data Protection Act of 2023 (**"*DPDP Act*"**).

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[62] DEP'T OF SPACE, GOV'T OF IND., CLARIFICATIONS/COMPLIANCE POINTS IN PURSUANCE TO GEOSPATIAL GUDIELINES, 2022, Point 2(1)(f) (2022), https://www.surveyofindia.gov.in/UserFiles/files/document-49301-New%20Guidelines%20on%20Geospatial%20Data.pdf

[63] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 4(6) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

[64] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 5(20) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf

[65] *Id.*

[66] DEP'T OF SPACE, GOV'T OF IND., INDIAN SPACE POLICY, Point 6(3) (2023), https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf

[67] *Id.*

D. EYES IN THE SKY: THE RIGHT TO PRIVACY IN ORBIT

It can be gathered that a private company would also fall under RSDP along with Indian Space Policy and the DPDPA. However, enforcement may be challenging, *first*, when a company streams imagery online in real-time; the old model of pre-screening each image may not hold. *Second*, foreign satellite firms (for example, Planet Labs, Maxar) provide high-resolution imagery of India globally. Though not covered under the Indian jurisdiction, they can continue to sell data pertaining to India and a buyer (falling under the Indian jurisdiction) can purchase it. This highlights a gap in India's data protection policy, and privatization without addressing these concerns could widen that gap.

Therefore, privatisation of the space sector may eventually lead to decentralisation of data control (the autonomy earlier held by ISRO) and in absence of a strict framework, risks to data protection are on the rise.

Moreover, the DPDPA establishes a framework for gathering and processing of personal data, imposing obligations on data fiduciaries, data minimisation, and security safeguards etc. While not specific to the space sector, the Act's principles extend to any personal data, digital or otherwise.[68] However, applying DPDPA to satellite data is a novel territory. A potential hurdle is that raw imagery is often not personal data (for instance, a picture of a field is not personal data unless tied to an owner or a person present).

A significant criticism of the DPDPA is the broad exemptions it grants to the government. Section 18 of the Act allows the central government to exempt any of its agencies from most provisions of the law for reasons such as national security, public order.[69] Practically, this means that Indian intelligence or law enforcement could lawfully compel private satellite firms to share data, or itself use personal data collected by them, without adhering to general privacy norms. The Act also permits the government

[68] The Digital Personal Data Protection Act, 2023, § 3, The Gazette of India, pt. II sec. 1 (August 11, 2023).
[69] The Digital Personal Data Protection Act, 2023, § 18, The Gazette of India, pt. II sec.1 (August 11, 2023).

to access personal data with companies and even issue directions to block content or information. In the context of the space industry, one can envisage scenarios such as the government asking a private imaging company to routinely provide real-time surveillance footage of the Earth over certain areas for security operations. This could include mass surveillance without warrant. While such use might be justified for counterterrorism or border security, the concern is the lack of independent oversight or limitation. This dilemma between national security and privacy is at the heart of the debate around Article 21 of the Constitution.

The Court in *Puttaswamy* acknowledged that national security can be a legitimate aim but underscored the need for proportionality and supervision.[70] Currently, RSDP itself is driven by security concerns (preventing high-resolution images of sensitive sites), with privacy as an implicit outcome. As privatisation progresses, a recalibration is needed wherein privacy is addressed more explicitly alongside security. For instance, not just shielding army bases, but also perhaps prohibiting high-resolution imaging of private spaces without consent or government clearance.

These concerns could be addressed by *first*, restricting imaging of sensitive installations or very high-resolution personal data without clearance (i.e. strict licensing framework). *Second*, there should be an oversight authority to monitor satellite data use and *third*, the law should clearly delineate liability if a space operator's data practices infringe privacy. *Last*, informed citizens can then exercise whatever choices or rights they have (e.g., a right to object to persistent surveillance if that becomes recognized by law).

Having analysed India's data protection framework, in the next sub-section, the authors shall critique the inadequacy of India's outdated surveillance framework and threat to illegal surveillance in light of the Pegasus incident, despite strong assurance against it.

[70] K.S. Puttaswamy (Privacy-9J.) v. Union of India, (2017) 10 SCC 1, ¶T4.

ARTICLE 21 AND THE PEGASUS INCIDENT

The American pursuit of space surveillance became clear in 2013 when a classified information leak by the US National Security Agency employee Edward Snowden revealed government agencies' coordination with private actors in mass surveillance operations. Often described as the 'securitization' of society, this occurs without the knowledge or consent of citizens.[71] A petrifying manifestation of such securitization could be seen with the Pentagon purchasing the rights to all satellite imagery of Afghanistan from a private space company owning high- resolution satellites.[72]

This is certainly not the first attempt of a government being a coveted client of a private data company; which is observable from the forgotten case of *Manohar Lal Sharma v. Union of India*,[73] where the respondent (the government of India), via the Minister of IT, Ashwini Vaishnaw stated in the Parliament, that any form of illegal surveillance is *impossible* in India, due to the existence of 'robust laws and institutions'. Palpably, the only visible safeguard in the form of any institutional establishment is referred to be a review committee headed by the Union Cabinet Secretary,[74] who functions under the government of India and does not constitute an independent oversight mechanism. Such an arrangement fails-the test of reasonableness and fairness required by a procedure established by law to satisfy its legality under article 21 of the constitution as laid down in *Maneka Gandhi v. Union of India.*[75] Moreover, it also contradicts the test of adhering to principles of natural justice as propounded in *Uma Nath Pandey v. State of UP and Ors*.[76] Any legal safeguards to militate against illegal surveillance, for that matter, do not exist in India.

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[71] Zygmunt Bauman, Didier Bigo, Paulo Esteves, Elspeth Guild, Vivienne Jabri, David Lyon, R. B. J. Walker, *After Snowden: Rethinking the Impact of Surveillance*, 8(2) IPS, 121 (2014).

[72] Steven Livingston. & W. Lucas Robinson,, *Mapping Fears: The Use of Commercial High-Resolution Satellite Imagery in International Affairs*, 1(2) ASTROPOLITICS, 3, 3-25 (2003).

[73] Manohar Lal Sharma v. Union of India, (2021) SCC OnLine SC 1066.

[74] Manohar Lal Sharma v. Union of India, (2021) SCC OnLine SC 1066.

[75] Maneka Gandhi v. Union of India, (1978) 1 SCC 248.

[76] Uma Nath Pandey v. State of U.P., (2009) 12 SCC 40.

This is followed by a rather confusing statement which seems to admit the existence of such unwarranted surveillance, where Vaishnaw propounds that the government is entitled to interception of electronic communication for the purposes of national security or public safety by way of the infamous section 5 of the Indian Telegraph Act. From its textual interpretation, this provision limits its applicability only in cases of a public emergency[77] and has thankfully been subject to restrictive judicial interpretation.[78] Alongside this, the draconian section 69 of the Information Technology Act is often used to justify breaches of citizens' privacy.[79]

Two pertinent questions arise from this case. *First*, whether the government indeed made use of Pegasus for surveillance activities, and *second*, whether such surveillance was limited to intercepting activities that endanger sovereignty or illegally encroach the digital privacy of citizens such as journalists and vigilantes without their consent.[80] The former, even if legal, poses a threat to sovereignty itself. For instance, security and defence agencies spend nearly a billion dollars annually to procure earth observation data and imagery from foreign sources, and India severely lacks in self-sufficiency in situational space awareness to accurately track space objects in order to classify them as friendly, hostile or debris. This is keeping in mind the fact that India needs high-resolution radar and electro-optical sensors in space in order to defend its huge landmass and oceans from two formidable adversaries.[81]

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[77] Indian Telegraph Act, 1885, § 5, No. 13, Acts of Imperial Legislative Council of India, 1885 (India).

[78] PUCL v. Union of India, (1997) 1 SCC 301.

[79] Apar Gupta v. PIO, Ministry of Home Affairs, (2022) SCC OnLine CIC 4746.

[80] Krishnadas Rajagopal, *Supreme Court asks what's wrong if country using Pegasus against 'anti-nationals', agrees to examine if private citizens were hacked,* THE HINDU, (Apr. 29, 2025) https://www.thehindu.com/news/national/pegasus-row-supreme-court-says-wont-disclose-report-that-touches-countrys-security-sovereignty/article69504285.ece.

[81] Anil Chopra, *Impact of Defence Space Capabilities on National Security,* INDIAN AEROSPACE & DEFENCE BULLETIN (Apr. 24, 2024), https://www.iadb.in/2024/04/14/impact-of-defence-space-capabilities-on-national-security/.

Therefore, even if the government claims to have made use of foreign surveillance for national security purposes, that in itself doesn't seem to be the most promising way to ensure security, with there being a persistent threat of Indian militarily sensitive data being utilized by foreign countries. This rather does make a case for better privatisation of the Indian space sector. But the latter question makes the application of the same doubtful, which still remains doubtful due to the vagueness of privacy safeguards on dissemination of geospatial data discussed later in the article; particularly in light of newer trends of the prescribed use of artificial intelligence technologies. [82]

The government of India has used the doctrine of compelling public interest to justify state surveillance on numerous occasions, citing national security and threat to sovereignty as the reasons for its actions.[83] However, this doctrine being more widely used in American jurisprudence, notably in the case of *Grutter v. Bollinger* demonstrates that such defenses taken by governments require the restriction to be tailored in the narrowest possible manner, also known as the 'narrow tailoring test'.[84] Anachronistic statutes such as the Telegraph Act as well as legislations such as the IT Act, by way of their ambiguous drafting, make it less feasible for the narrow tailoring test to be applied consistently.[85]

In this context, in the following section, the authors aim to explore the possible privacy concerns with data that is publicly available through the use of satellites and other instrumentalities through outer space itself. Such data, referred as geospatial data, combines spatial data with attributes, in

[82] World Economic Forum and McKinsley & Company, *Space: The $1.8 Trillion Opportunity for Global Economy,* WEF (2024), https://www3.weforum.org/docs/WEF_Space_2024.pdf.

[83] Ritesh Sinha v. State of U.P., (2019) 8 SCC 1.

[84] Grutter v. Bollinger, 539 U.S. 306 (2003).

[85] Esha Aggarwal, *Analysis of India's Censorship Measures in Light of American Constitutionalism*, 8(2) COMP. CONST. L. & ADMIN. L. J. VII, 70 (2024).

order to observe real time phenomena from the Earth's surface,[86] with a popular example being tools such as Google Earth.

SURVEILLANCE, PRIVACY, AND THE NEW GEOSPATIAL ECONOMY

Building on the concerns around India's geospatial policies, this section highlights their broader implications for surveillance and privacy. *First*, it shows how liberalised access to spatial data heightens risks of manipulation and breaches by both domestic and foreign actors. *Second*, it contrasts

India's lack of safeguards with U.S. policy responses, laying the groundwork for examining India's international obligations in outer space law.

A. GEOSPATIAL TECHNOLOGIES AND THE FICTION OF DEMOCRATIC ACCESS

Geospatial technology has been defined to include but not limit itself to any means of ground survey or satellite-based remote-sensing techniques. The National Geospatial Policy, 2022 has been a major step towards 'democratisation' of data access.[87] While the term hitherto used is most often referred to in the context of citizens' access to data and rights, the implication of the same in light of the policy is rather commercial. What it implies is that private companies in India will presumably have equal, *democratic* access to citizens' data, which will most likely occur without their knowledge.

The government initially introduced guidelines/policies for shaping the entire geospatial ecosystem. Therefore, the National Geospatial Policy,

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[86] *Remote Sensing*, NASA Earthdata (Aug. 29, 2025), https://www.earthdata.nasa.gov/learn/earth-observation-data-basics/remote-sensing.

[87] MINISTRY OF SCIENCE AND TECHNOLOGY, GOV'T OF IND., NATIONAL GEOSPATIAL POLICY (2022), https://dst.gov.in/sites/default/files/National%20Geospatial%20Policy.pdf.

2022 read with Guidelines for acquiring and producing Geospatial Data and Geospatial Data Services including Maps *(**"Geospatial Guidelines, 2021"**)*[88] and Clarifications/Compliance points in pursuance to Geospatial Guidelines, 2022 *(**"Clarifications to Geospatial Guidelines, 2022"**)* are also referred for regulation of satellite imagery distribution.

The Geospatial Guidelines, 2021 provide for a liberalised system of providing data access, replacing the earlier licensing regime with a new self-certification regime. This also makes a clear distinction between data accessible to the government, Indian private entities, and foreign entities, respectively. It appears that the incentivisation of these entities to access data follows in a descending order, where the government exclusively owns access to ostensibly all forms of data, including sensitive areas, while Indian private entities are subject to transparent pricing, and subsequently lesser access for foreign entities, which appears to be a step in the right direction.[89]

The Clarifications to Geospatial Guidelines, 2022 only reaffirm any potential loopholes while reiterating quite explicitly, the fact that foreign entities cannot capture data above thresholds prescribed for Indian companies, emphasising on national security concerns which makes it interesting to correlate the same with attributability of data mismanagement to the Indian government considering the fact that the guidelines themselves advocate for free access to data obtained by public funds in India, making it a public resource.[90] A pertinent question still arises; the government still has access to data containing minute, negative attributes such as traffic, directions, etc. What makes this a safer choice than entrusting it with private entities in the context of individual privacy?

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[88] DEP'T OF SPACE, GOV'T OF IND., GUIDELINES FOR ACQUIRING AND PRODUCING GEOSPATIAL DATA AND GEOSPATIAL DATA SERVICES INCLUDING MAPS, Point 8 Explanation (iv)(a)(1) (2021), https://www.surveyofindia.gov.in/UserFiles/files/document-49301-New%20Guidelines%20on%20Geospatial%20Data.pdf

[89] *Id.*

[90] DEP'T OF SPACE, GOV'T OF IND., CLARIFICATIONS/ COMPLIANCE POINTS IN PURSUANCE TO GEOSPATIAL GUIDELINES (2021), https://dst.gov.in/sites/default/files/DST OM dated 28th November 2022.pdf.

This can be foreseen with the development of high-resolution satellite imagery over the years, which has now made movements of up to 50 centimetres of Ground Sampling Distance ***("GSD")*** accessible[91] that can reveal detailed visuals of buildings, homes, and potentially, individuals' movements. This, without a doubt, is extremely useful for disaster management planning and better navigation services.[92] A concern, however, is with respect to the guidelines for production and access to such data, which clearly require no prior approvals for Indian individuals, companies or government entities to acquire, process, share or publish geospatial data and maps. All this can be done without a security clearance or licensing, except for sensitive attributes like military installations which were to be notified by the government[93] and has notably not happened till date. The problem arises with the lack of a comprehensive data protection ecosystem; India currently stands at a crucial juncture with about 7,000 public inputs on the Draft Data Protection Rules[94] enacted in accordance with the Data Protection Act,[95] pending publication of the final rules which are delayed beyond weeks from the initial deadline.[96]

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[91] NATIONAL DISASTER MANAGEMENT AUTHORITY, GOV'T OF IND., NATIONAL TECHNICAL DOCUMENT FOR ESTABLISHING CARTOGRAPHIC BASE IN INDIA (2016), https://ndma.gov.in/sites/default/files/PDF/Technical%20Documents/national-technical-document-for-establishing-cartographic-base-in-india.pdf.

[92] Suha, *Liberalisation of Geospatial Data: A Gateway to Innovation for Indigenous Business,* 2 JCLJ., 115, 115-127 (2022).

[93] DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOV'T OF IND., GUIDELINES FOR ACQUIRING AND PRODUCING GEOSPATIAL DATA AND GEO-SPATIAL DATA SERVICES INCLUDING MAPS (2021), https://dst.gov.in/sites/default/files/Final%20Approved%20Guidelines%20on%20Geospatial%20Data.pdf.

[94] Digital Personal Data Protection Rules, 2025, Gazette of India, pt. II sec. 3 sub sec. (i) (Jan. 3, 2025).

[95] Digital Personal Data Protection Act, 2023, The Gazette of India, pt. II sec. 1 (August 11, 2023).

[96] The Hindu Bureau, *Draft data protection rules have received almost 7,000 comments: IT Ministry,* THE HINDU (July 25, 2025), https://www.thehindu.com/news/national/draft-data-protection-rules-have-received-almost-7000-comments-it-ministry/article69854950.ece.

THE NEED FOR PRIVACY IN THE CYBERSPACE

As a corollary to the fact that private companies will now have greater access to special activities at a physical level with the use of remote sensing satellites which work on the information provided by the Survey of India as per the Geospatial policy guidelines, the line between access to special information and the cyberspace blurs. The integration of digital technologies into our physical lives is what creates a virtual dimension called the 'cyberspace'.[97] For instance, the Internet of Things ***("IoT")*** computes data monitoring and analysis to the extent of a user being able to view the activity at their front door even while they are away, along with the ability to let them in as per their convenience.

These very technologies that ease data access in daily lives increase the risk of data manipulation and privacy breaches. This covers an individual's concerns with their data going up for grabs to private companies and even the government, for that matter. Another aspect of the same, however, is the access of such data to foreign players in India's space industry. The National Geospatial Policy, 2022 liberalises access not just for Indian startups, but also for foreign entities. Data relating to Indian geography and demography can be used for targeted surveillance or manipulation of consumer or voter behaviour,[98] because even though such access is restricted through API licensing, such manipulation is often institutionalised, capable of being easily surpassed.

This, without a doubt, extends to terrorism with the public dissemination of geospatial information. In the wake of 9/11, the US government began instituting information protection policies aimed at increasing homeland security to prevent unprecedented misuse of publicly available geospatial information.[99] Recently too, the United States, facing a similar challenge to

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[97] Yinhao Jiang, Mir Ali Rezazadeh Baee, Leonie Ruth Simpson, Praveen Gauravaram, Josef Pieprzyk, Tanveer Zia, Zhen Zhao, and Zung Le, *Pervasive User Data Collection from Cyberspace: Privacy Concerns and Countermeasures,* 8 CRYPTOGRAPHY, 1, 1-24 (2024).

[98] MINISTRY OF SCIENCE AND TECHNOLOGY, GOV'T OF IND., NATIONAL GEOSPATIAL POLICY Point 5(20) Point 3(2) (2022), https://dst.gov.in/sites/default/files/National%20Geospatial%20Policy.pdf.

[99] Mark Corson, Geospatial Intelligence in Cyberspace, Department of Geography, PennState College of Earth and Mineral Sciences (Dec. 2023) https://www.e-education.psu.edu/geog882/node/2204.

its policies of public dissemination of such information has acknowledged the fact that it needs to reconsider the types of geospatial information that can be made publicly accessible, as well as *whether* and *how* to restrict new sensitive information as it becomes available.[100]

Such discourse, let alone palpable policies, are yet to be seen in India, which brings us to the following section concerning India's international obligations with respect to the data it acquires and exploits through outer space instruments.

GLOBAL CONSTITUTIONAL SILENCES AND INTERNATIONAL ACCOUNTABILITY

While domestic legislations in India on space regulation are relatively nascent, any discussion on the same would be incomplete without treading on the path that goes back to 1967 with the Outer Space Treaty as well as the Artemis Accords in particular, which act as a global constitutional framework to achieve attributability to nation-states for breach of international law in outer space.

[100] JOHN C. BAKER ET AL., MAPPING THE RISKS: ASSESSING THE HOMELAND SECURITY IMPLICATIONS OF PUBLICLY AVAILABLE GEOSPATIAL INFORMATION (The RAND Corporation, 2004).

A. THE OUTER SPACE TREATY: RESPONSIBILITY WITHOUT ACCOUNTABILITY

Outer space law essentially comprises of five core multilateral treaties[101] and five sets of principles[102] negotiated in the United Nations Committee on the Peaceful Uses of Outer Space and adopted by the UN General Assembly. As such, outer space activities are conducted in the shadow of the constitutive norms of *pacta sunt servanda*, sovereign equality, territorial integrity and non- interference.[103] The Treaty on Principles Governing the

[101]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, (entered into force Oct. 1967), 6 I.L.M. 386 (1967), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html; Agreement on the Rescue and Return of Astronauts and Objects Launched into Outer Space, (entered into force Dec. 1968), Res. 2345 (XXII), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/rescueagreement.html; Convention on International Liability for Damage Caused by Space Objects, (entered into force Sept. 1972), Res. 2777 (XXVI), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/liability-convention.html; Convention on Registration of Objects Launched into Outer Space, (entered into force Sept. 1976), Res. 3235 (XXIX), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/registration-convention.html; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, (entered into force Jul. 1984), Res. 34/68, https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/moon-agreement.html.

[102] Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, (adopted Dec. 1963), Res. 1962 (XVIII), https://digitallibrary.un.org/record/203965?v=pdf; , The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, (adopted Dec. 1982), Res. 37/92, https://www.unoosa.org/pdf/gares/ARES_37_92E.pdf; The Principles Relating to Remote Sensing of the Earth from Outer Space, (adopted Dec. 1986), Res. 41/65, https://www.unoosa.org/pdf/gares/ARES_41_65E.pdf; The Principles Relevant to the Use of Nuclear Power Sources in Outer Space, (adopted Dec. 1992), Res. 47/68, https://www.unoosa.org/pdf/gares/ARES_47_68E.pdf; The Declaration 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, (adopted Dec. 1996), Res. 51/122, https://www.unoosa.org/pdf/gares/ARES_51_122E.pdf.

[103] Adam Bower, *Global Constitutionalism and Outer Space Governance,* Handbook of Global Constitutionalism, 529 ANTHONY F. LANG & ANTJE WIENER EDS., EDWARD ELGAR PUBL'G., 2-19 (2023).

Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies *(**"Outer Space Treaty"**)* remains to be the only ostensible source for *governing* states' activities in outer space.

It asserts that "*States shall be responsible for national space activities whether carried out by governmental or non- governmental entities*",[104] which should ostensibly restrain the activities of private space corporations by incentivising states to ensure rather robust legislative safeguards to avoid attribution of possibly illegal activities under the treaty.

Instead, this points to a larger global constitutional silence; the Outer Space Treaty does not mention states' responsibility with respect to data monitoring or illegal surveillance in space. A rather weak provision it has with some semblance of security to militate against illegal surveillance is Article XI, which requires states to intimate the Secretary-General of the United Nations and to the public and international scientific community, to the greatest extent feasible and practical, of the nature, conduct, locations and results of activities.[105] Needless to say, the ambiguity ingrained in 'feasible' and 'practical' offers virtually no binding obligations on states to worry about the consequences of data surveillance.

Additionally, the lack of specificity in the Outer Space Treaty with respect to private property rights over extra- terrestrial resources which includes the physical expanse of outer space grants selective access for conducting space activities only to a narrow class of wealthy investors from already prosperous space economies such as the United States.[106] What places India

[104] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, (entered into force Oct. 1967), art. VI, 6 I.L.M. 386 (1967), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html.

[105] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, (entered into force Oct. 1967), art. XI, 6 I.L.M. 386 (1967), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html

[106] Take for instance, the rise of private space agencies such as Elon Musk's SpaceX, whose terms for service for its Starlink broadband internet service state: "For services provided on Mars, or in transit to Mars via Starship or other spacecraft, the parties

at a clear disadvantage from utilising this provision is first, lack of resources with private companies in India, and second, lack of clear regulatory framework to enable efficient privatization of the space sector. Even though corporations such as Larsen and Toubro, Godrej and Tata have been long term vendors for ISRO, these collaborations have had to be backed by the safety net of buybacks to ensure business survivability.[107] Contrastingly, America's National Aeronautics and Space Administration (NASA) being financially stronger budgets a separate amount for private partnerships, supported by players like Boeing and SpaceX, greatly leveraging America's rocket, satellite launch and space manufacturing capabilities. Essentially, the space economy in America is decentralized, where the government limits itself to being the chief developer. This has been backed since 2006 with the Commercial Resupply Services (CRS) program to regulate the terms and functioning of such partnerships.

B. THE ARTEMIS ACCORDS AND STRATEGIC SOFT LAW

The Artemis Accords lay down principles and guidelines that apply to the safe exploration of the moon and also extends to the possibility of humans exploring Mars.[108]

Section 8 of the Artemis Accords is about the release of scientific data, which makes it compulsory for state organizations to openly share scientific data while being completely inapplicable to the private sector.[109] It must be kept in mind that the very purpose of these accords is to foster interoperability with the involvement of private players in outer space

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recognize Mars as a free planet and that no Earth- based government has authority or sovereignty over Martian activities." (Adam Bower, *Global Constitutionalism and Outer Space Governance*, Aug. 2022).

[107] LESLEY JANE SMITH ET AL. (EDS.), ROUTLEDGE HANDBOOK OF COMMERCIAL SPACE LAW (Routledge, 1st ed. 2023).

[108] Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes**,** Oct. 13, 2020, https://www.nasa.gov/wp-content/uploads/2023/07/Artemis-Accords-signed-13Oct2020.pdf.

[109] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, (entered into force Oct. 1967), art. VIII, 6 I.L.M. 386 (1967), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html.

activities.[110] As unregulated private involvement in outer space is becoming rather institutionalized, it is pertinent to refer to when during the Russo Ukraine war the Ukrainian military planned an attack on a Russian naval fleet based in Crimea, as the operation involved sending six drone submarines packed with explosives. This was being done by a Starlink satellite which gave Elon Musk the final call on acceding to Ukraine's call for what could have potentially been a nuclear explosion.[111]

This is exactly what the authors aim to flag; international obligations must be enforced with the help of institutionalised mechanisms specific to each country, as we potentially arrive in an era where private players may have control over people's daily activities, and of course, lives.

CONCLUSION

As Orwell cautioned, the gravest secrets are the ones hidden even from those meant to guard them. For India's space future, that means refusing opacity, ensuring that neither the State nor private actors operate beyond the reach of their own oversight. Only then can the commons remain truly common.

A pertinent question that arises when evaluating the *usage* of this data, is regarding the *source* of such data in the first place. The National Data Sharing and Accessibility Policy *("**NDSAP**")* provides for all 'data collected by the government using public funds' to be available for public exploitation. The preamble to the policy mentions the intent behind the same to be the fact that a 'large quantum of data generated using public funds by various organizations in the country remain inaccessible to the civil society' which appears to be a step in the right direction. The problem as discussed above arises simply due to the lack of privacy safeguards and

[110] Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes, § 5 (Oct. 13, 2020), https://www.nasa.gov/artemis-accords/.

[111] CBS News, *Elon Musk Says He Denied Ukraine Satellite Request to Avoid Complicity in 'Major Act of War' vs. Russia*, CBS (Sept. 8, 2023) https://www.cbsnews.com/news/elon-musk-ukraine-russia-war-starlink-satellite-denied-major-act-of-war/.

clear framework for holding actors accountable as discussed above in detail.[112]

There is no doubt that efficient mapping is imperative for modern governance. India's complex topography as well as digital divide create roadblocks for efficient surveying causing gaps in statistical data further creating gaps in focused policy- making.[113] However, efficient mapping by itself does not resolve these issues. It is only after robust safeguards to an individual's privacy protected by carefully crafted guidelines and effectively enforceable covenants that too by independent actors, that the 'welfare' aspect of these efforts can be touched upon.

What makes Indian private space companies promising in this respect is not just the cost efficiency, but also the availability of launch infrastructure and fully-formed launch vehicles. This sets the country's industry, including Indian private space companies, apart from places like Europe, which has little of either, or the UK, whose northern inclination reduces what it can launch and where. The way forward appears optimistic. Typically, early startups were rarely able to draw angel and venture capital funds in India, but as risk- taking tendencies emerge, one can frequently see examples like Digantara, which is building active orbital surveillance platforms throughout the country.[114]

Together, these mean India must keep its private space actors in check to ensure compliance with global commons principles. For instance, India cannot simply allow a private firm to occupy an orbital slot that harms another country's equitable access; that would violate both OST and the constitutional value of common good. The Moon Agreement of 1979[115]

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[112] National Data Sharing and Accessibility Plan, 2012, Gazette of India, pt. I sec. I (Mar. 23, 2012).

[113] The Global Fundamental Geospatial Themes, United Nations Committee on Experts on Global Geospatial Information Management, 2019 https://ggim.un.org/meetings/GGIM-committee/9th Session/documents/Fundamental_Data_Publication.pdf.

[114] SMITH, *supra* note 107.

[115] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, (entered into force Oct. 1967), Res. 34/68, art. XI, 6 I.L.M. 386 (1967), https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html.

goes further, calling lunar resources the "*common heritage of mankind*" and hinting at a future international regime to govern exploitation. While not widely adopted, it aligns with Article 39(b) ideals.

In summary, both domestic and international norms caution India to tread carefully: privatisation should not become privatization of the commons. Space must remain a realm that broadly benefits humanity, not just a few companies. Any legal framework for space mining, satellite licensing, or spectrum allocation should reflect sustainable and equitable use, with proceeds and benefits ploughed back into society via government revenues, improved services, or technology transfers to the public domain.

IN THIS ISSUE

The fields of constitutional law, and administrative law and their comparative aspects demand academic rigour from both the authors and the editors. Together, we are in a position to deliver something meaningful to the academic discourse. As the Editor-in-Chief of the Comparative Constitutional Law and Administrative Law Journal (**"CALJ"**) under the Centre for Comparative Constitutional Law and Administrative Law (**"CCAL"**), it gives me immense pleasure to introduce Issue II of Volume IX of our journal to the readers.

In '***Deparadoxing Constitutional Democracy'***, Prof. (Dr.) Laurence Claus revisits Socrates' observations that democracy can undermine itself when popular authority becomes concentrated in the hands of a singular leader. The article argues that while the British parliamentary and American presidential systems achieved durability through long formative periods marked by elitist constraints, the involvement of mass suffrage from the start has rendered the system vulnerable. The author suggests that charismatic leaders are uniquely able to convert temporary popularity into disciplined party control, enabling them to dominate legislatures and, at times, alter constitutional frameworks to entrench their power. Drawing on comparative experience, the article contends that this paradox is not insoluble. It examines case studies from early British and American constitutional development to demonstrate how institutional dispersal of

authority prevented total executive capture. It then turns to the Swiss system, where proportional representation and a plural executive provide structural safeguards against the rise of singular leaders. The article concludes that contemporary constitutional democracies can remain both fully inclusive and institutionally resilient by perfecting models of power sharing that resist the temptations of charismatic authority.

In '***The Conundrum of Manifest Arbitrariness and Legislature's Intent: An Inquiry***', the authors examine the evolution of Article 14 of the Indian Constitution from the reasonable classification test to the doctrine of arbitrariness. They trace its origins in Justice Bhagwati's opinion in *E.P. Royappa*, where arbitrariness was positioned as antithetical to equality, and analyse Justice Nariman's decision in *Shayara Bano*, which extended the concept of "manifest arbitrariness" to strike down plenary legislation. The article critiques this judicial innovation on both conceptual and institutional grounds. By equating arbitrariness with inequality, the authors argue, courts risk conflating administrative law standards with constitutional adjudication. This creates uncertainty about whether arbitrariness constitutes a standalone test or a variant of reasonable classification. More significantly, the doctrine allows courts to enquire into legislative intent, a move that unsettles the presumption of constitutionality and blurs the line between legislative policy and judicial review. Through a detailed engagement with precedents ranging from *Royappa* and *Ajay Hasia* to *McDowell*, *Navtej Johar*, and the Electoral Bonds judgment, the article highlights inconsistencies in the Supreme Court's reasoning. The authors contend that the use of manifest arbitrariness risks fostering excessive judicial intervention and undermining the principle of separation of powers. It concludes that while Article 14 must remain a robust safeguard against discriminatory state action, the doctrine of manifest arbitrariness is constitutionally unsustainable, normatively undefined, and vulnerable to judicial overreach. The authors caution that the continued use of this doctrine could lead to "juristocracy," and argue instead for a restrained and textually grounded approach to legislative review under Article 14.

In ***'Democracy on Trial: A Case of Temporary Disqualification of People's Representatives under Section 8B of the Representation of the People Act,'*** the author examines the escalating criminalisation of Indian politics, spotlighted by a 2024 Association for Democratic Reforms

report revealing that 46% of Lok Sabha members face criminal charges, with 31% accused of serious offences like murder and rape. The study evaluates the proposed Section 8B of the Representation of the People Act, 1951, which advocates disqualifying candidates upon framing of charges for serious crimes, as recommended by the 244th Law Commission Report (2014). Analysing judicial precedents such as *Public Interest Foundation v. Union of India*, the paper critiques the inadequacy of current disqualification laws reliant on convictions, hindered by judicial delays and low conviction rates. It addresses parliamentary concerns about Section 8B, such as premature disqualification and potential misuse, arguing that safeguards like a one-year charge cut-off and expedited trials ensure fairness. Comparing jurisdictions like Egypt, the Philippines, and Germany, the article further highlights stricter global disqualification norms. Finally, it advocates for Section 8B's enactment, voter sensitization, party penalties, and special courts to expedite trials, urging coordinated action among stakeholders to protect India's electoral integrity and democratic principles.

In "***Tribal Communities and the Indian Constitution: Socio-economic Rights of Tribes in India and the Challenges of Climate Change,***" the author explores the vulnerability of India's tribal populations to climate change. The article argues that the constitutional framework, particularly the Fifth and Sixth Schedules and the Panchayat (Extension to Scheduled Areas) Act (PESA), has failed to adequately protect the socio-economic rights of tribes and ensure their effective participation in decision-making. By tracing the historical trajectory of tribal representation, from colonial-era policies to the debates in the Constituent Assembly, the paper highlights how a paternalistic, top-down approach has disempowered these communities. The author analyzes the legal provisions, demonstrating how the current system, often influenced by political and economic interests, facilitates the exploitation of natural resources at the expense of tribal rights and livelihoods. Ultimately, the article underscores the urgent need for constitutional remedies to empower tribal communities and safeguard their deep-rooted connection to nature in the face of the global climate crisis.

In "***Decriminalising Indian Politics: Synchronising Democratic Probity and Fairness in India's Electoral Set-Up,***" Archisa Ratn and Atharva Dwivedi contend that India's legal framework for preventing political criminality is flawed and inadequately applied. The authors critically examine Sections 8 and 11 of the Representation of the People Act, 1951 (RoPA), which disqualify convicted individuals from holding public office. By tracing the legislative history, the paper argues that the provision's broad language and rigid application, specifically the two-year sentence threshold, fail to distinguish between serious crimes and minor, politically motivated offenses. Using the disqualification of Rahul Gandhi as a prime example, the article asserts that these provisions are susceptible to misuse, creating an arbitrary and unconstitutional legal landscape. The authors conclude by proposing legislative reforms that balance the need for ethical politics with fairness, advocating for a more nuanced approach that considers the nature of the crime rather than simply the length of the sentence.

In "***To Consociate or Not to Consociate: Understanding the Paradox of Elite Dominance and Constitutionalism,"*** Daisy Verghese and Parvathy K. Arun present a critical analysis of consociationalism, a political theory for managing deeply divided societies. The authors challenge Arend Lijphart's classification of India as a successful consociational state, arguing that the theory's power-sharing mechanisms, intended to mitigate ethnic conflict, have instead contributed paradoxically, to elite dominance and the oppression of minorities. By examining India's political evolution, the paper demonstrates how the informal adoption of consociational principles, such as proportionality in government appointments and cultural autonomy, has institutionalized ethnic divisions. This framework, they argue, exacerbated tensions and ultimately contributed to significant violence, including the Partition. The article concludes that India's experience serves as a cautionary tale, revealing that consociational policies can deepen divisions rather than alleviate them, and highlights the need for alternative policy structures that promote genuine social harmony without institutionalizing ethnic identities.

CCAL ACTIVITIES

Over the last seven months, CCAL has undertaken several activities aimed at fostering interest and development in the fields of constitutional law and

administrative law. The endeavour of the Centre to encourage discourse on the subject matter of constitutional and administrative law is furthered by preparations for hosting our annual National Seminar on Constitutionalism in Contemporary Times, guest lecture events, Writ[e] & Talk podcast and the regular publication of articles on topics of contemporary relevance on our blog "*Pith and Substance: The CCAL Blog*".

The Centre for Comparative Constitutional and Administrative Law hosts its podcast, "*Writ[e] and Talk*." This podcast features in-depth interviews with the authors of various articles. It allows listeners to take them beyond the written word, by delving further into the concepts, arguments, and analyses underlying published works. The same is hosted by Ms. Sayantani Bagchi, and our student members. Listeners can subscribe to our podcast on YouTube, Google Podcasts, and Spotify. This came as a further development to talks that were organised by the centre which saw several luminaries over the span of 4 years such as Dr. Seema Kazi, Dr. Rowena Robinson, Dr. Prashant Narang to name a few.

Our podcast is available on Spotify, Google Podcasts and YouTube. Transcripts of the episodes and links to relevant reading material can be found on our blog, Pith & Substance: The CCAL Blog.

CCAL in collaboration with the University's Queer Alliance, PRIDE NLUJ, hosted a virtual guest lecture on September 8, 2025, by Prof. Rehan Abeyratne, Professor and Associate Dean (Higher Degree Research) at Western Sydney University School of Law, to mark the 7th anniversary of *Navtej Singh Johar v. Union of India* (2018). Drawing from his recent book *Courts and LGBTQ+ Rights in an Age of Judicial Retrenchment*, Prof. Abeyratne offered a nuanced analysis of the paradox between the judicial advancement of LGBTQ+ rights and the simultaneous decline of liberal constitutionalism worldwide, weaving in perspectives from the United States, India, and Hong Kong to show how courts, even under retrenchment, have remained pivotal to the recognition of LGBTQ+ rights. Such events reflect the commitment of CCAL to contribute towards contemporary discourse in constitutional law and queer rights.

The centre aims to encourage dialogue and make academia accessible, by simplifying ideas and constitutional theory, for students and people from a non-legal background to understand the same.

For Constitution Day, the Centre hosted an Intra-University Essay Writing Competition for students of the university, inviting them to critically engage with the ethos of the Constitution, highlighting the legacy of Indian jurists whose contributions to the evolution and interpretations of the Constitution have been invaluable. This year, our 3rd edition, invited students to write on Justice H.R. Khanna.

ACKNOWLEDGEMENT

The editorial board of CALJ ("**Board**") worked on the issue over the last seven months with utmost dedication and determination. The process was a learning experience for us and provided us with the opportunity to bond with the entire team.

The publication of this issue would not have been possible without the guidance of our Patron, Hon'ble Vice-Chancellor of the National Law University, Jodhpur, Prof. (Dr.) Harpreet Kaur. At this juncture, we would also take the opportunity to thank our Chief Editor – Ms. Sayantani Bagchi, for her constant support, mentorship and engagement with every initiative we undertake. The Registrar of National Law University, Jodhpur has also ensured smooth functioning at every stage, and we are thankful for it.

We would also like to thank every member of the Board for working on the issue and ensuring that the standards of our journal improve constantly. Members of the Board — Sonsie Khatri, Krishangee Parikh, Kovida Bhardwaj, Dhruv Singhal, Mohak Dua, Tasneem Fatma, Sourabh Manhar, Vaishnavi Suresh, Manugonda Soumya, Aadisha Dhaliwal, Adithya Talreja, Amita Kaka, Devvrata, Anand Shankar, Gurmehar Singh Bedi, Manishka Baweja, Mayank Sinha, Paavani Kalra, Prabhav Chaturvedi, Tamanna, Udit Jain, Suhana Gandhi, Ananthajitha, Divita Joshi, Karlo Cruz, Kushal Pal, Princy Sawant, Rohitash Yadav and Rini Varghese — have been assets to our team.

We would like to express our gratitude to Mr. Gyan Bissa and the University's IT department for maintaining our website and providing us

with sufficient resources. The Board also recognises the vital part performed in processing each application and ensuring the efficiency of the process by the University's Students Section.

On behalf of the Board, we must also thank our authors for taking the time to contribute to this issue. The topics covered in this issue are of contemporary relevance to Indian Constitutional Law as well as theoretical underpinnings of the Constitution.

We are grateful to the writers for their persistence and cooperation throughout the editing process, which made the timely and smooth release of this issue possible. The Board hopes that readers will find this issue to be a useful resource and that it will encourage informed discussion on the topics of administrative law and constitutional law. Should our readers have any queries, suggestions or feedback for us, write to us at: **editorcalq[at]gmail[dot]com.**

Himanshi Yadav & Sinchan Chatterjee

Editors-in-Chief