DIGITAL LAND REGISTRIES AND BLOCKCHAIN: LEGAL GAPS IN INDIA'S PROPOSED TOKENISATION OF IMMOVABLE PROPERTY

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ABSTRACT

India's embrace of blockchain technology for land record management, evidenced by the Andhra Pradesh-Zebi Data pilot, the Amaravati-Polygon project, and the Ministry of Electronics and Information Technology's National Blockchain Framework, has proceeded without commensurate engagement with the legal foundations on which any property rights system must rest. This paper identifies and analyses three structural legal gaps that render India's proposed tokenisation of immovable property legally untenable under the existing statutory framework. First, blockchain token transfers cannot satisfy the compulsory registration requirement under Section 17 of the Registration Act, 1908, and any purported title transfer executed exclusively on-chain remains void under Section 49 of that Act. Second, the decentralised architecture of distributed ledger systems is structurally incompatible with the certification mandate under Section 65B of the Indian Evidence Act, 1872, making blockchain-derived title records inadmissible before Indian courts. Third, the irreversible self-execution of smart contracts creates an unresolved collision with court injunctions and the doctrine of lis pendens under Section 52 of the Transfer of Property Act, 1882, for which Indian law currently provides no remedial mechanism. The paper further examines the multi-regulator fragmentation across SEBI, RERA, and RBI frameworks, draws on comparative experience from Georgia and Sweden, and proposes four targeted legislative reforms to bridge the identified gaps.

Keywords: Blockchain Land Registry, Tokenisation of Immovable Property, Section 17 Registration Act, Section 65B Indian Evidence Act, Lis Pendens, Smart Contract Enforceability

I. Introduction

India's land administration crisis is well-documented: approximately two-thirds of all civil litigation in the country concerns land and property disputes, and chronic opacity in title records has rendered vast stretches of immovable property economically unproductive.[1] Against this backdrop, state governments have turned to blockchain technology as a structural remedy. Andhra Pradesh became one of the earliest adopters, piloting blockchain-secured land records in the Amaravati Capital Region in 2017 through a collaboration with Zebi Data India.[2] By 2025, the Amaravati-Polygon project had authenticated approximately 340 million government records on-chain, including property deeds and tax documents.[3] Telangana, in a parallel initiative developed with Tech Mahindra, deployed a distributed-ledger framework to reduce title fraud and registration delays.[4]

The ambition has since scaled nationally. The Ministry of Electronics and Information Technology's National Blockchain Framework identifies land records as a priority use-case, and India's real estate sector, valued at over USD 265 billion, is attracting proposals for the full tokenisation of immovable property through fractional, smart-contract-enabled ownership structures.[5]

Yet a foundational legal question has gone almost entirely unaddressed in Indian scholarship: can a blockchain-recorded token transfer of immovable property constitute valid title under the existing statutory framework? The answer, as this paper argues, is no, and the consequences of proceeding without resolving this question will be severe.

Three structural legal gaps undermine India's blockchain land registry initiative. First, token transfers do not comply with the compulsory registration mandate under Section 17 of the Registration Act, 1908, and any purported transfer of title without Sub-Registrar registration

[1] See generally Institute for Competitiveness, Land Record Management in India (Working Paper No. 16, 2024), https://competitiveness.in/wp-content/uploads/2024/03/TID_WP_16_Land_Record_Management_in_India.pdf.
[2] AP Pioneers Blockchain Solution for Land Records, Indian Mandarins (Jan. 8, 2018), https://www.indianmandarins.com/news/andhra-pradesh-pioneers-blockchain-solution-for-land-records/6932; Blockchain Tech is Joining E-Gov Dots in AP, Telangana, Econ. Times (Jun. 26, 2017), https://economictimes.indiatimes.com.
[3] India's Amaravati City to Push Land Records on Blockchain with Polygon, CoinLaw (Oct. 31, 2025), https://coinlaw.io/amaravati-polygon-blockchain-land-records/.
[4] Blockchain Tech is Joining E-Gov Dots in AP, Telangana, supra note 2.
[5] Press Info. Bureau, National Blockchain Framework (Nov. 19, 2025), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2182023; Nishith Desai Associates, Real Estate Tokenisation 4 (Mar. 2025), https://nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Real-Estate-Tokenisation.pdf.

remains void under Section 49 of that Act.[6] Second, distributed ledger records cannot satisfy the certification requirements under Section 65B of the Indian Evidence Act, 1872, rendering blockchain-derived title evidence legally precarious before Indian courts.[7] Third, Indian law contains no mechanism to reconcile the irreversible execution of a smart contract with a contradictory court decree or injunction, leaving the doctrine of lis pendens under Section 52 of the Transfer of Property Act, 1882 functionally inapplicable in a tokenised environment.[8]

This paper adopts a doctrinal methodology, analysing primary legislation, judicial precedent, and regulatory materials to diagnose each gap and propose targeted statutory reforms. The urgency is not merely theoretical: every pilot that advances without resolving these gaps deepens the juridical risk for property owners, investors, and courts alike.

II. Background: The Anatomy of India's Blockchain Land Registry Push

2.1 State-Level Pilots

India's engagement with blockchain-based land records predates the current wave of tokenisation discourse. Andhra Pradesh was among the earliest adopters, securing over 100,000 land records on a blockchain through a collaboration with Zebi Data India beginning in 2017, with the Amaravati Capital Region serving as the primary testing ground.[9] The more recent iteration of this initiative, the Amaravati-Polygon project launched in October 2025, represents a significant architectural evolution: rather than storing full documents on-chain, only cryptographic hashes of land titles, property deeds, and tax ledgers are recorded on the Polygon layer-2 network, while original documents are retained in state registries.[10] Residents continue to access records through the existing Mahabhulekh digital portal, which is now supplemented by blockchain-powered verification for disputed or audited cases.[11]

Telangana, through its collaboration with Tech Mahindra, adopted a comparable phased model

[6] Registration Act, No. 16 of 1908, §§ 17, 49 (India).
[7] Indian Evidence Act, No. 1 of 1872, § 65B (India); Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, (2020) 7 SCC 1 (India); Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473 (India).
[8] Transfer of Property Act, No. 4 of 1882, § 52 (India).
[9] India's Amaravati City to Push Land Records on Blockchain with Polygon, CoinLaw (Oct. 31, 2025), https://coinlaw.io/amaravati-polygon-blockchain-land-records/; AP Pioneers Blockchain Solution for Land Records, Indian Mandarins (Jan. 8, 2018), https://www.indianmandarins.com/news/andhra-pradesh-pioneers-blockchain-solution-for-land-records/6932.
[10] India's Amaravati City to Push Land Records on Blockchain with Polygon, supra note 9.
[11] Id.

in which only confirmed and verified transactions were migrated to the distributed ledger, meaning the blockchain functioned as a security overlay rather than a primary registry of title.[12] Several other states, including Maharashtra, West Bengal, Tamil Nadu, Odisha, and Uttar Pradesh, have explored analogous frameworks for administrative record-keeping.[13]

A critical governance ambiguity runs through all of these pilots. In each case, the blockchain record is treated operationally as a tamper-proof verification layer, not as a legally operative instrument of title. The policy discourse surrounding these initiatives, however, frequently conflates the two, creating the foundational confusion that this paper examines.

2.2 The National Blockchain Framework and Tokenisation Ambition

As of October 2025, approximately 340 million government records have been authenticated under India's National Blockchain Framework, with land records designated as a priority use-case by MeitY.[14] India's real estate market, valued at over USD 265 billion, is now attracting proposals that go further than record verification, specifically the full tokenisation of immovable property through fractional ownership structures, smart-contract-executed transfers, and decentralised finance liquidity mechanisms.[15] Nishith Desai Associates, in their 2025 research paper on real estate tokenisation, confirm that the concept "remains unregulated" in India and that any tokenisation attempt must simultaneously navigate SEBI, RERA, RBI/FEMA, and state stamp duty frameworks, producing a multi-regulator compliance maze without a clear statutory anchor.[16] Because land is a State subject under Entry 18, List II of the Seventh Schedule to the Constitution of India, any centralised blockchain land registry framework would require either cooperative federalism or a concurrent legislative intervention, neither of which has been initiated.[17]

[12] Blockchain Tech is Joining E-Gov Dots in AP, Telangana, Econ. Times (Jun. 26, 2017), https://economictimes.indiatimes.com/small-biz/security-tech/technology/blockchain-tech-is-joining-e-gov-dots-in-ap-telangana/articleshow/59312175.cms.
[13] India's Amaravati City to Push Land Records on Blockchain with Polygon, supra note 9.
[14] Press Info. Bureau, National Blockchain Framework (Nov. 19, 2025), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2182023.
[15] Nishith Desai Associates, Real Estate Tokenisation 4 (Mar. 2025), https://nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Real-Estate-Tokenisation.pdf.
[16] Id. at 6; KSANDK, Tokenizing Real Assets: India's Legal and Regulatory Roadmap (Sept. 24, 2025), https://ksandk.com/investment/tokenizing-real-assets-indias-legal-regulatory-roadmap/.
[17] Constitution of India, Seventh Schedule, List II (State List), Entry 18 ("Land, that is to say, rights in or over land, land tenures including the relation of landlord and tenant, and the collection of rents; transfer and alienation of agricultural land; land improvement and agricultural loans; colonization.").

III. Section 17 of the Registration Act and the Blockchain Incompatibility

3.1 The Compulsory Registration Mandate and Its Rationale

Section 17(1) of the Registration Act, 1908 mandates compulsory registration of instruments that create, declare, assign, limit, or extinguish any right, title, or interest in immovable property of a value exceeding one hundred rupees, as well as instruments of gift, sale, or exchange involving immovable property.[18] The provision serves a dual function: it is simultaneously an evidentiary mechanism, imposing constructive public notice of title changes, and a substantive one, vesting the operative legal effect of the transfer in the act of registration itself.[19] This dual character distinguishes Section 17 from a mere procedural formality. The consequence of non-compliance is not a technical irregularity but legal nullity: Section 49 of the Registration Act provides unambiguously that an unregistered document required to be registered under Section 17 shall not affect any immovable property, be received as evidence of any transaction affecting such property, or be acted upon by any public officer.[20] The courts have consistently reinforced this position. In Suraj Lamp and Industries Pvt. Ltd. v. State of Haryana, the Supreme Court held that title to immovable property cannot pass through general power of attorney or unregistered agreement of sale, reaffirming that registration is the only legally recognised mode of effectuating a conveyance in India.[21]

3.2 Why a Token Transfer Cannot Substitute Registration

A blockchain token transfer, regardless of its cryptographic authenticity or public verifiability, does not constitute "registration" within the meaning of Section 17. The Registration Act prescribes a specific procedural architecture: the instrument must be presented before the Sub-Registrar of Assurances within whose sub-district the property is situated, stamp duty must be paid under the applicable State Stamp Act, the executant and witness must appear in person or through a power of attorney, and the document must be entered into the prescribed Register maintained under Section 51 of the Act.[22] None of these requirements are satisfied by a smart-

[18] Registration Act, No. 16 of 1908, § 17(1) (India).
[19] See Mulla, The Registration Act 243 (14th ed. 2019) (explaining that Section 17 serves the dual purpose of providing notice to the public and constituting the operative mode of transfer).
[20] Registration Act, No. 16 of 1908, § 49 (India).
[21] Suraj Lamp and Indus. Pvt. Ltd. v. State of Haryana, (2012) 1 SCC 656, 670 (India).
[22] Registration Act, No. 16 of 1908, §§ 23, 28, 32, 51 (India); see also Mandatory Registration of Documents Relating to Immovable Property, Mondaq (2024), https://www.mondaq.com/india/real-estate/1233940/mandatory-registration-of-documents-relating-to-immovable-property.

contract-triggered token transfer, which is initiated and completed entirely on a distributed ledger network without the involvement of any registering authority.

The Amaravati-Polygon project inadvertently concedes this point. The architecture of that system explicitly retains original property deeds with state registries while recording only cryptographic hashes on-chain, meaning the legal transfer of title is still effectuated through the paper instrument and its Sub-Registrar registration.[23] The blockchain layer, by design, is a verification overlay, not a title-transfer mechanism. The difficulty arises where full tokenisation proposals seek to collapse the two, treating the on-chain token transfer as itself constituting the conveyance. In such a scenario, the token holder would possess a blockchain entry of significant computational authenticity but zero legal force, unable to enforce title against any third party and barred from producing the token record as evidence in any court proceeding by operation of Section 49.

KSANDK (2025) confirms this position expressly: "Property transfers must comply with the Registration Act, 1908 and state stamp duty laws. Tokenisation does not exempt compliance with these requirements."[24] Yet no policy document accompanying any of India's blockchain land registry pilots has addressed how the compulsory registration requirement will be reconciled with token-based transfers, leaving a normative vacuum at the core of the entire initiative.

3.3 Section 17(1A) and the Smart Contract Question

Section 17(1A), inserted by the Registration and Other Related Laws (Amendment) Act, 2001, extends the compulsory registration requirement to contracts to transfer immovable property for consideration, specifically for the purposes of Section 53A of the Transfer of Property Act, 1882.[25] The amendment was designed to prevent parties from claiming the benefit of part-performance under Section 53A through unregistered agreements. However, it creates an unresolved question in the context of smart contracts: does a smart contract that governs the conditions and execution of a token-based property transfer constitute a "contract to transfer"

[23] India's Amaravati City to Push Land Records on Blockchain with Polygon, CoinLaw (Oct. 31, 2025), https://coinlaw.io/amaravati-polygon-blockchain-land-records/.
[24] KSANDK, Tokenizing Real Assets: India's Legal and Regulatory Roadmap (Sept. 24, 2025), https://ksandk.com/investment/tokenizing-real-assets-indias-legal-regulatory-roadmap/.
[25] Registration and Other Related Laws (Amendment) Act, No. 48 of 2001, § 17(1A) (India); Transfer of Property Act, No. 4 of 1882, § 53A (India).

within the meaning of Section 17(1A)?

The answer, tentatively, is yes. Where a smart contract specifies parties, identifies a property, stipulates consideration, and auto-executes transfer upon payment, it satisfies the substantive definition of a contract to transfer for consideration. If so, the smart contract itself would require compulsory registration. This produces an immediate procedural paradox: smart contracts are not paper instruments, are not presented before a Sub-Registrar, and cannot be "executed" in the sense contemplated by the Registration Act.[26] The 2001 Amendment, intended to close a conveyancing loophole, thus inadvertently creates a new and sharper incompatibility between the registration framework and blockchain-based property transfers. The legislature has yet to address this, and no judicial pronouncement has considered the question.

IV. The Evidentiary Gap: Blockchain Records and Section 65B

4.1 Section 65B and the Electronic Records Framework

Even if a blockchain-recorded token transfer were to survive the Section 17 challenge through legislative reform, a second and independent gap arises at the level of evidence: the question of whether blockchain records can be admitted as proof of title in Indian courts. The Indian Evidence Act, 1872 was amended in 2000 to insert Section 65B, which provides a specific mechanism for the admissibility of electronic records as documentary evidence.[27] Under Section 65B(1), any information stored or processed in a computer and reproduced in paper form is deemed documentary evidence if the conditions prescribed under Section 65B(2) are met. Those conditions require that the computer producing the output was in regular use by the person managing lawful activities, that the computer stored the information in the ordinary course of those activities, that the computer was operating properly throughout the material period, and that the electronic record accurately reproduces the stored information.[28]

Critically, Section 65B(4) requires that these conditions be certified by a person "occupying a responsible official position in relation to the operation of the relevant device or the

[26] See Registration Act, No. 16 of 1908, §§ 17, 23–32 (India) (prescribing time limits, place of registration, persons who must appear, and document presentation requirements, none of which contemplate digital-only or self-executing instruments).
[27] Information Technology Act, No. 21 of 2000, § 92 (India) (amending the Indian Evidence Act, 1872 to insert Section 65A and 65B).
[28] Indian Evidence Act, No. 1 of 1872, § 65B(1)-(2) (India).

management of the relevant activities." This certificate is not a procedural facilitation device. The Supreme Court in Anvar P.V. v. P.K. Basheer held that a Section 65B certificate is a mandatory condition precedent for admissibility of electronic records, and that no electronic record can be admitted without it.[29] This position was affirmed and refined in Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, where the Court held that the certificate must be produced at the time of filing, not subsequently, and that failure to produce it is a non-curable defect.[30]

4.2 The Distributed Ledger Certification Problem

Blockchain technology exposes a structural incompatibility with this framework. A distributed ledger, by architectural definition, operates without a central administrator. Records are validated by a network of nodes operating under a consensus mechanism, with no single entity managing, controlling, or being "responsible" for the computer system that generates the output.[31] This directly undermines the Section 65B(4) certification requirement. A party seeking to produce a blockchain-derived land title record in court cannot identify the "person occupying a responsible official position" over the distributed network because no such person exists. The very characteristic that makes blockchain records resistant to tampering, their decentralised, trustless architecture, renders them incapable of generating the certification that Indian evidence law demands.

This is not a gap that creative interpretation can bridge. The Supreme Court's construction of Section 65B(4) in Arjun Panditrao is strict and purposive: the certificate must come from a person who can attest to the functioning of the specific device or system and the accuracy of the output it produced.[32] A node operator on a public blockchain network cannot meaningfully make such an attestation about a network that operates beyond any single party's control. A private or permissioned blockchain, where a government authority operates identifiable nodes, offers a partial solution, but none of India's existing pilots have designated a statutory custodian

[29] Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473, 488-490 (India).
[30] Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, (2020) 7 SCC 1, 34-37 (India).
[31] See Adv. Rohan Vyas, Blockchain and Evidence Law: Legal Recognition and Admissibility Challenges in India, JusScriptum L. (Jul. 21, 2025), https://www.jusscriptumlaw.com/post/blockchain-and-evidence-law-legal-recognition-and-admissibility-challenges-in-india.
[32] Arjun Panditrao Khotkar, (2020) 7 SCC at 36-38.

capable of issuing a compliant certificate.[33]

4.3 The Bharatiya Sakshya Adhiniyam: A Missed Opportunity

The Bharatiya Sakshya Adhiniyam, 2023 (BSA), which replaced the Indian Evidence Act with effect from July 1, 2024, largely reproduces the Section 65B framework under Section 63.[34] While the BSA introduces modest clarifications relating to the admissibility of electronic and digital records, including oral admissions and primary electronic evidence, it contains no provision specifically addressing distributed ledger technology, blockchain records, or decentralised consensus systems.[35] The legislative opportunity to modernise India's electronic evidence framework in a manner that accounts for blockchain architecture was not taken. The BSA retains the same "responsible official position" certification requirement, leaving the structural gap entirely intact.

The significance of this gap in the property law context is acute. Title disputes over immovable property frequently turn on the authenticity, priority, and completeness of documentary evidence. A party holding a blockchain-verified token who cannot produce a Section 65B or BSA Section 63 compliant certificate will find their primary evidence excluded at the threshold, regardless of the cryptographic integrity of the underlying record. The result is a system in which blockchain records are simultaneously more tamper-proof and less legally usable than a handwritten entry in a Sub-Registrar's ledger.[36]

V. Smart Contracts vs. Court Decrees: The Enforceability Collision

5.1 Smart Contract Mechanics in Property Tokenisation

A smart contract is a self-executing program stored on a blockchain that automatically performs predefined actions when specified conditions are met.[37] In a tokenised property transaction, the

[33] See Bhatt and Joshi Associates, Electronic Contracts Under the Evidence Law: Admissibility Revisited (May 15, 2025), https://bhattandjoshiassociates.com/electronic-contracts-under-the-evidence-law-admissibility-revisited/ (noting that the certification mechanism presupposes a centrally managed system and does not contemplate peer-to-peer distributed architectures).
[34] Bharatiya Sakshya Adhiniyam, No. 47 of 2023, § 63 (India).
[35] Id. §§ 57-63 (India) (provisions on electronic records and digital evidence, containing no reference to distributed ledger technology, consensus mechanisms, or decentralised nodes).
[36] See generally Legal Admissibility and Evidentiary Value of Blockchain-Based Records, 6(4) Int'l J. Res. & Publication Rev. 1254 (Apr. 2025), https://ijrpr.com/uploads/V6ISSUE4/IJRPR42618.pdf.
[37] See Smart Contracts and Their Enforceability in India, iPleaders (May 4, 2022), https://blog.ipleaders.in/smart-contracts-and-their-enforceability-in-india/.

typical architecture operates as follows: a seller deposits a token representing a property interest into the smart contract, a buyer deposits the agreed consideration in a cryptocurrency or stablecoin, and upon verification of both deposits, the contract auto-executes, atomically transferring the token to the buyer and the consideration to the seller.[38] The execution is instantaneous, irreversible, and governed entirely by code. Once triggered, no party to the transaction, and no external authority, can unilaterally reverse or pause it. This irreversibility is presented as a feature, eliminating counterparty risk and the need for escrow intermediaries. As this section argues, it is also a serious legal defect in the context of Indian property law.

5.2 Smart Contracts Under the Indian Contract Act

Smart contracts are not wholly alien to Indian contract law. The Indian Contract Act, 1872 requires an agreement to be supported by offer, acceptance, consideration, free consent, and a lawful object.[39] Where the underlying agreement satisfies these requirements, the automated execution mechanism does not by itself invalidate the contract. Sections 4 and 5 of the Information Technology Act, 2000 further provide legal recognition to electronic records and digital signatures, lending legitimacy to contracts formed and performed through electronic means.[40] Several commentators have therefore concluded that smart contracts are, in principle, enforceable under Indian law where the substantive contractual requirements are satisfied.[41]

However, the enforceability of smart contracts as agreements is distinct from the question of what happens when smart contract execution produces an outcome that conflicts with a judicial order. The Indian Contract Act, the IT Act, and no other Indian statute addresses this scenario, which is the enforceability gap this paper identifies as the most acute in the tokenised property context.

5.3 The Collision Scenario

Consider the following fact pattern, which is not hypothetical in any meaningful sense: a title dispute concerning a parcel of land is pending before a civil court. The plaintiff applies for and

[38] See Enforceability of Smart Contracts Under Indian Law, TheLawWay with Lawyers J. (Mar. 21, 2025), https://thelawwaywithlawyers.com/enforceability-of-smart-contracts-under-indian-law/.
[39] Indian Contract Act, No. 9 of 1872, §§ 2(a), 2(b), 2(d), 10, 14, 23 (India).
[40] Information Technology Act, No. 21 of 2000, §§ 4, 5 (India).
[41] See iPleaders, supra note 37; see also How Smart Contracts Work Under Indian Law: Enforceability, Evidence and Compliance, Vidhisastras (Dec. 25, 2025), https://vidhisastras.com/blog/how-smart-contracts-work-under-indian-law-enforceability-evidence-and-compliance/.

obtains a temporary injunction under Order XXXIX Rule 1 of the Code of Civil Procedure, 1908 restraining the defendant from alienating, encumbering, or transferring the property pending final adjudication.[42] Simultaneously, the defendant has entered into a tokenised sale agreement with a third-party buyer through a smart contract on a blockchain platform. The buyer makes payment, the triggering condition is met, and the smart contract auto-executes, transferring the property token to the buyer before the court order can be served or the transaction interdicted.

Indian law is entirely unprepared for this scenario on three counts. First, the court cannot issue an injunction addressed to a smart contract because a blockchain protocol is not a legal person capable of receiving or obeying judicial directions.[43] Second, no statutory provision empowers a court to compel the reversal of an on-chain token transfer, the blockchain network has no concept of judicial authority, and the executing nodes operate under consensus rules, not court orders. Third, the buyer who received the token through an executed smart contract may claim the status of a bona fide purchaser for value without notice under Section 19(b) of the Transfer of Property Act, 1882, particularly where the injunction order was not recorded in any publicly accessible registry linked to the token.[44]

Vidhisastras (2025) acknowledges that "automated execution does not override judicial discretion" and that "courts may intervene where equity demands relief," but provides no mechanism by which such intervention operates against irreversible on-chain code.[45] The observation identifies the problem without resolving it.

5.4 The Collapse of Lis Pendens on the Blockchain

Section 52 of the Transfer of Property Act, 1882 codifies the doctrine of lis pendens, providing that during the pendency of a suit in which any right to immovable property is in question, the property cannot be transferred or otherwise dealt with by any party to the suit so as to affect the rights of any other party.[46] The doctrine operates as a statutory notice mechanism: any person who acquires the disputed property during litigation takes it subject to the outcome of

[42] Code of Civil Procedure, No. 5 of 1908, Order XXXIX, Rule 1 (India).
[43] Cf. Indian Contract Act, No. 9 of 1872, § 11 (India) (prescribing that only persons competent to contract may be bound by legal obligations, a qualification that a blockchain protocol cannot satisfy).
[44] Transfer of Property Act, No. 4 of 1882, § 19(b) (India).
[45] Vidhisastras, supra note 41.
[46] Transfer of Property Act, No. 4 of 1882, § 52 (India).

the suit, regardless of whether they had actual knowledge of the proceedings.

Lis pendens, as currently constructed, is a notice-based doctrine calibrated for a world where transfers pass through a registering authority that can be served with, or is otherwise aware of, court proceedings.[47] In a tokenised environment, the transfer passes through a decentralised protocol with no registering authority, no human intermediary, and no mechanism to check whether the property in question is the subject of pending litigation. There is no blockchain-compatible lis pendens notification system under Indian law, no obligation on any blockchain platform to query pending litigation records before executing a transfer, and no provision enabling courts to lodge a litigation flag against a tokenised asset in the way that a lis pendens caveat functions in physical registration systems.[48] The result is that the entire protective architecture of Section 52, one of the most litigated provisions in Indian property jurisprudence, becomes functionally inapplicable the moment a property is tokenised and its transfers are governed by self-executing code rather than by a Sub-Registrar.

VI. Regulatory Fragmentation: SEBI, RERA, RBI and the Missing Tokenisation Statute

6.1 The Multi-Regulator Maze

India's tokenised real estate ecosystem does not fall within the jurisdiction of any single regulator. Depending on the structure of the token offering, multiple regulatory frameworks are triggered simultaneously, with no designated lead authority and no statutory mechanism to resolve jurisdictional overlaps. Where a property token entitles its holder to a share of rental income or capital appreciation, it acquires the economic character of a security, activating SEBI's jurisdiction under the Securities and Exchange Board of India Act, 1992 and potentially the SEBI (Real Estate Investment Trusts) Regulations, 2014 as amended in 2024.[49] Where the token pertains to an ongoing real estate development project, RERA's obligations under the Real Estate (Regulation and Development) Act, 2016 apply, requiring project registration, disclosure obligations, and escrow management.[50] Where the token is accessible to non-

[47] See T.G. Ashok Kumar v. Govindammal, (2010) 14 SCC 370, 378 (India) (explaining the operation and policy rationale of Section 52 as a constructive notice provision anchored in the registration system).
[48] See generally KSANDK, Tokenizing Real Assets: India's Legal and Regulatory Roadmap (Sept. 24, 2025), https://ksandk.com/investment/tokenizing-real-assets-indias-legal-regulatory-roadmap/ (noting the absence of any notification or freeze mechanism in existing blockchain property frameworks).
[49] Securities and Exchange Board of India Act, No. 15 of 1992, § 11 (India); SEBI (Real Estate Investment Trusts) (Amendment) Regulations, 2024, https://www.sebi.gov.in/legal/regulations/mar-2024/securities-and-exchange-board-of-india-real-estate-investment-trusts-amendment-regulations-2024.
[50] Real Estate (Regulation and Development) Act, No. 16 of 2016, §§ 3, 4, 13 (India).

resident investors, every transfer attracts scrutiny under the Foreign Exchange Management Act, 1999 and RBI's regulations governing foreign direct investment in real estate.[51] Underlying all of these layers, every actual conveyance of the property interest represented by the token must comply with state-specific stamp duty legislation, which varies significantly across jurisdictions and has not been amended to contemplate token-based transfers.[52]

6.2 The Title-Less Investment Problem

The multi-regulator structure is not merely inconvenient; it produces a more fundamental problem. Where a tokenised property interest is structured without a Special Purpose Vehicle or trust framework linking the token to a registered legal title, investors may hold digital tokens that represent economic exposure to real estate without holding any enforceable proprietary right in the underlying land.[53] The token, in such cases, is a contractual instrument against the issuer, not a title instrument against the world. If the issuer becomes insolvent, the token holder has no priority claim over the physical property and no recourse under the Transfer of Property Act because no registered instrument of title was ever executed in their favour.[54] Nishith Desai Associates (2025) identifies this as the central risk of unregulated tokenisation: "the token and the underlying asset can become legally decoupled," leaving investors with computational proof of ownership but no legal entitlement.[55]

6.3 The Legislative Vacuum

No Indian statute currently defines a "property token," prescribes the legal relationship between a token and the underlying immovable asset, or designates a regulatory authority with oversight over tokenised real estate markets.[56] SEBI's 2024 amendment to the REIT Regulations

[51] Foreign Exchange Management Act, No. 42 of 1999 (India); Foreign Exchange Management (Non-debt Instruments) Rules, 2019, Rule 6 (India) (regulating foreign investment in immovable property in India).
[52] See KSANDK, Tokenizing Real Assets: India's Legal and Regulatory Roadmap (Sept. 24, 2025), https://ksandk.com/investment/tokenizing-real-assets-indias-legal-regulatory-roadmap/ (noting that state stamp duty frameworks have not been adapted for token-based transfers and continue to operate on the premise of physical instrument execution).
[53] See FinLaw, Legal Framework for Real Estate Tokenization in India (Dec. 25, 2025), https://finlaw.in/blog/legal-framework-for-real-estate-tokenization-in-india.
[54] Transfer of Property Act, No. 4 of 1882, §§ 54, 58 (India) (requiring registered instruments for operative sale and mortgage of immovable property); Registration Act, No. 16 of 1908, § 49 (India).
[55] Nishith Desai Associates, Real Estate Tokenisation 9 (Mar. 2025), https://nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Real-Estate-Tokenisation.pdf.
[56] See generally HP National Law University, Navigating Legal Frontiers of Real Estate Tokenization in India (Mar. 23, 2024), https://www.hpnlu.ac.in/PDF/bcda0e5f-7ef8-4789-96d0-5f24868a2990.pdf (confirming the absence of bespoke tokenisation legislation in India).

addressed fractional ownership platforms for commercial real estate but did so within the existing securities law framework, which does not extend to residential property, agricultural land, or government land parcels.[57] The legislative vacuum means that two transactions that are economically identical, the transfer of a fractional interest in real property, may be regulated entirely differently depending on whether they are structured as REIT units, fractional ownership platform units, or blockchain tokens, with no principled legal distinction justifying the disparity.[58] This regulatory arbitrage risk incentivises structuring decisions driven by the desire to escape oversight rather than by the economic needs of the transaction, a dynamic that will compound as tokenisation activity scales.

VII. Comparative Insights: What India Can Learn

7.1 Georgia and Sweden: The Verification-Not-Title Consensus

The international experience with blockchain land registries converges on a principle that India's policy discourse has conspicuously avoided stating: blockchain enhances the integrity of the title registration process but does not replace the legal act of registration itself. The Republic of Georgia, in a landmark 2016 collaboration between the National Agency of Public Registry and Bitcoin blockchain developer Bitfury, became the first country to record land title transactions on a blockchain.[59] Crucially, the Georgian system uses the blockchain as a cryptographic audit trail anchored to the existing National Agency registry, not as a freestanding title register. The operative legal title continues to vest through the state's registration authority; the blockchain entry provides tamper-evident verification of that registration, not an independent source of title.[60]

Sweden's Lantmäteriet pilot, conducted between 2016 and 2018 in collaboration with blockchain firm ChromaWay and the major Swedish banks, went further by digitising the entire

[57] SEBI (Real Estate Investment Trusts) (Amendment) Regulations, 2024, supra note 49; see also KSANDK, supra note 52 (noting that the SEBI fractional ownership framework is limited to commercial real estate assets above specified value thresholds).
[58] See Nishith Desai Associates, supra note 55, at 11-13 (describing the regulatory arbitrage risk arising from structuring-dependent treatment of economically equivalent property interests).
[59] Bitfury Group, From Concept to Reality: Bitfury Completes Successful Blockchain Land Registry Pilot with the Government of the Republic of Georgia (Feb. 2017), https://bitfury.com/content/downloads/bitfury_georgia.pdf; see also Michael del Castillo, Georgian Land Registry Adds 100,000 Land Titles to Blockchain, CoinDesk (Feb. 7, 2017), https://www.coindesk.com/business/2017/02/07/georgian-land-registry-adds-100000-land-titles-to-blockchain/.
[60] Id.; see also Kamlesh Nagware, Blockchain in Land Registry: A Global Perspective, 3 J. Legal Tech. & Innovation 47, 51 (2021) (noting that Georgia's blockchain layer functions as an immutable audit log appended to state-administered title records, not as a replacement registry).

conveyancing workflow, including buyer and seller digital signatures, mortgage approvals, and broker confirmations, on a distributed ledger.[61] However, the pilot's own concluding report acknowledged that legal title under Swedish law must still vest through the Lantmäteriet's formal registration act, and that the blockchain layer served to accelerate, authenticate, and reduce friction within that process rather than circumvent it.[62]

7.2 The Implication for India

Both models embody a "blockchain within law" architecture: the technology is deployed in service of the existing legal framework, not as a parallel substitute for it. India's pilots have, in operational practice, followed this architecture, but have failed to enshrine it in statute, creating the ambiguity that tokenisation proposals now exploit.[63] The comparative lesson is precise: jurisdictions that have advanced furthest with blockchain land registries, including Georgia, Sweden, and the United Arab Emirates (which launched a blockchain real property platform in Dubai in 2017), have done so by amending or supplementing their property registration legislation to accommodate digital workflows while retaining the constitutive role of state registration in vesting title.[64] India has taken the technological step without taking the legislative one, and the gap between the two is where the legal risks examined in this paper reside.

VIII. Proposed Legal Reforms

8.1 Amending the Registration Act to Accommodate Digital Registration

The most foundational reform required is an amendment to Section 17 of the Registration Act, 1908 to create a "Digital Registration Protocol" enabling Sub-Registrars to record and certify a cryptographic hash of a property instrument on a government-administered blockchain node

[61] ChromaWay, The Swedish Land Registry Experiment: Final Report 4-7 (2018), https://chromaway.com/landregistry/Blockchain_Landregistry_Report_v1.0.2.pdf.
[62] Id. at 22 (concluding that "[t]he legal transfer of title remains subject to Lantmäteriet registration and cannot be effectuated by blockchain entry alone").
[63] See India's Amaravati City to Push Land Records on Blockchain with Polygon, CoinLaw (Oct. 31, 2025), https://coinlaw.io/amaravati-polygon-blockchain-land-records/ (confirming that the Amaravati-Polygon model retains primary documents with state registries while adding blockchain verification).
[64] See Dubai Land Department, Real Estate Blockchain Strategy (2017), https://www.dubailand.gov.ae (describing Dubai's blockchain initiative as an integration layer within the existing DLD registration framework); see also Nishith Desai Associates, Real Estate Tokenisation 17 (Mar. 2025), https://nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Real-Estate-Tokenisation.pdf (surveying global frameworks and noting that legislative amendment consistently accompanies blockchain integration in mature property systems).

as an integral part of the registration process.[65] The blockchain entry would be a product and record of registration, not a substitute for it. The constitutive act of title vesting would remain the Sub-Registrar's formal registration, preserving the legal architecture of Sections 17 and 49, while the on-chain hash would provide immutable, publicly verifiable proof of that registration against tampering or administrative corruption. A complementary amendment to the Indian Stamp Act, 1899 and relevant state stamp legislation would be necessary to prescribe a mechanism for stamp duty assessment and payment on digitally executed instruments, without which the registration protocol would remain procedurally incomplete.[66]

8.2 A Blockchain Records Certification Authority Under the IT Act

To resolve the Section 65B evidentiary gap, Parliament should amend the Information Technology Act, 2000 to establish a designated Blockchain Records Certification Authority, staffed by officers of the National Informatics Centre or state IT departments operating authorised blockchain nodes.[67] This authority would serve as the "person occupying a responsible official position" required under Section 65B(4) of the Indian Evidence Act and Section 63(4) of the Bharatiya Sakshya Adhiniyam, 2023, issuing certificates attesting to the integrity of land title records stored on government-administered blockchain nodes. The certification mechanism would need to specify the consensus protocol, node architecture, and data extraction methodology against which the certificate is issued, addressing the evidentiary gap identified in Arjun Panditrao in terms specifically suited to distributed ledger outputs.[68]

8.3 A Digital Lis Pendens Mechanism

Section 52 of the Transfer of Property Act, 1882 must be supplemented by a digital lis pendens provision requiring courts issuing injunctions or restraint orders over immovable property to simultaneously transmit a digitally signed litigation flag to the relevant blockchain registry node, triggering a contractual freeze function on any smart contracts associated with the

[65] Registration Act, No. 16 of 1908, §§ 17, 49 (India); cf. ChromaWay, The Swedish Land Registry Experiment: Final Report 22 (2018) (recommending integration of blockchain records within existing statutory registration frameworks rather than displacement of those frameworks).
[66] Indian Stamp Act, No. 2 of 1899 (India); see also KSANDK, Tokenizing Real Assets: India's Legal and Regulatory Roadmap (Sept. 24, 2025), https://ksandk.com/investment/tokenizing-real-assets-indias-legal-regulatory-roadmap/ (noting that stamp duty legislation across Indian states must be harmonised with digital instrument frameworks).
[67] Information Technology Act, No. 21 of 2000, § 2(1)(e) (India) (defining "certifying authority"); see also Bharatiya Sakshya Adhiniyam, No. 47 of 2023, § 63(4) (India).
[68] Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, (2020) 7 SCC 1, 36-38 (India).

property's token identifier.[69] This mechanism would require coordinated amendment to the Code of Civil Procedure, 1908 prescribing a mandatory protocol for courts to notify blockchain registry authorities when restraint orders are passed, and a corresponding obligation on blockchain platform operators to maintain a freeze function responsive to such notifications as a licensing condition.

8.4 A Real Asset Tokenisation Act

Finally, India requires a bespoke Real Asset Tokenisation Act designating SEBI as the lead regulator for tokenised property instruments, with mandatory SPV or trust structures linking every property token to a registered legal title, defined disclosure obligations, and clear rules of priority between token holders and third-party claimants.[70] Such legislation would resolve the regulatory fragmentation identified in Section VI, eliminate the title-less investment risk, and provide a single statutory anchor for the multi-regulator compliance questions that currently make tokenisation commercially unviable for all but the most sophisticated issuers.

VII. Conclusion

India's blockchain land registry initiative represents a genuine administrative ambition, one that responds to a real and well-documented failure of the existing title recording system. The Andhra Pradesh and Telangana pilots, and the broader National Blockchain Framework, reflect a justified institutional frustration with a paper-based conveyancing infrastructure that has generated decades of litigation, pervasive fraud, and economic deadlock over disputed land. The technological aspiration is not in question. What is in question is whether the legal architecture exists to support it.

This paper has demonstrated that it does not. The three gaps examined are not peripheral regulatory uncertainties amenable to administrative clarification. They are structural incompatibilities between blockchain-based property transfer and the foundational statutes that govern title, evidence, and judicial protection of property rights in India. A token transfer that violates Section 17 is void. A blockchain record that cannot meet the Section 65B certification

[69] Transfer of Property Act, No. 4 of 1882, § 52 (India); Code of Civil Procedure, No. 5 of 1908, Order XXXIX, Rule 1 (India).

[70] See Nishith Desai Associates, Real Estate Tokenisation 19-21 (Mar. 2025), https://nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Real-Estate-Tokenisation.pdf (recommending a SPV-anchored tokenisation framework under SEBI oversight as the minimum viable regulatory structure for tokenised real estate in India).

requirement is inadmissible. A smart contract that executes against a court injunction produces a transfer that Indian law has no mechanism to reverse, ignore, or adequately penalise. Each gap, standing alone, is sufficient to render tokenised property legally precarious. Together, they render it legally untenable without legislative intervention.

The scholarship vacuum on these questions is not a minor academic deficiency. Policy without legal analysis is governance without accountability. Every blockchain land registry deployment that proceeds without resolving these gaps creates property rights that are computationally strong and legally hollow, a combination more dangerous than the paper-based system it proposes to replace, because it gives investors, buyers, and state governments a false confidence in the security of title that Indian law does not yet underwrite.

The reforms proposed in Section VIII are neither radical nor technically complex. They do not require abandoning blockchain technology, restructuring Indian federalism, or displacing established property law principles. They require Parliament and state legislatures to do precisely what they have always done when technology outpaces doctrine: read the new carefully against the old, identify where the seams do not hold, and legislate accordingly. Blockchain's potential to reduce land fraud, accelerate conveyancing, and bring transparency to one of India's most contested domains is real. That potential can only be realised through the law, not in spite of it.