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Reforming the Regulatory Framework for the Legal Protection of Electronic Mortgagees

Eka Sugiarti[1*], Irene Eka Sihombing[2], Endang Pandamdari[3]

[1,2,3]Universitas Trisakti, Letjen S. Parman St No.1, RT.6/RW.16, Grogol, Grogol petamburan, West Jakarta City, Jakarta
affifaauliyaak49@gmail.com

Abstract

This research aimed to analyze the legal protection construction for creditors holding Electronic Mortgage (HT-el) in Indonesia, evaluate its implementation and legal issues in practice including its correlation with the Supreme Court Decision Number 31K/TUN/2020, and formulate the ideal legal reconstruction model. The method applied was a normative juridical research method using a descriptive-analytical specification, combined with a socio-legal approach supported by library research and qualitative field interviews. The research results showed that while normative protection for HT-el was established through the integration of the Mortgage Law, the Electronic Information and Transactions Law, and Ministerial Regulations, its implementation remained relative and fragile. Under Indonesia's negative registration system with positive tendencies, electronic mortgage certificates could still be canceled if the underlying land titles faced administrative flaws or third-party lawsuits. Furthermore, technical malfunctions like server errors, flawed data inputs, and standard operating procedure delays degraded creditors' positions from preferred to concurrent status. Therefore, this study initiated a comprehensive legal reconstruction toward the legal substance by revising the Mortgage Law to explicitly recognize digital archives and state liability, improving the legal structure through infrastructure resilience and specialized oversight units, and empowering the digital legal culture of all stakeholders to create an adaptive and fair electronic mortgage system.

Keywords: Creditor protection, digital legal culture, electronic mortgage, legal reconstruction, legal certainty

Abstrak

Penelitian ini dilatarbelakangi oleh transformasi digital pelayanan pertanahan melalui sistem Pelayanan Hak Tanggungan Terintegrasi Secara Elektronik (HT-el) yang bertujuan meningkatkan efisiensi dan kepastian hukum, namun dalam praktiknya memunculkan risiko hukum baru yang dapat merugikan kreditur. Tujuan penelitian ini adalah untuk menganalisis konstruksi regulasi pertanahan, mengevaluasi implementasi serta problematika hukum HT-el di lapangan termasuk korelasinya dengan Putusan Mahkamah Agung Nomor 31K/TUN/2020, serta menemukan model rekonstruksi peraturan yang ideal. Metode penelitian yang digunakan adalah yuridis normatif dengan sifat deskriptif-analitis, didukung oleh pendekatan socio-legal melalui studi kepustakaan dan wawancara lapangan. Hasil penelitian menunjukkan bahwa pelindungan hukum bagi kreditur pemegang HT-el saat ini masih bersifat relatif karena sistem pendaftaran tanah di Indonesia menganut stelsel negatif bertendensi positif, sehingga sertifikat jaminan dapat dibatalkan jika hak atas tanah induknya terbukti cacat hukum. Selain itu, implementasi HT-el dihadapkan pada hambatan teknis berupa server error, validasi data manual yang tidak sesuai SOP, serta ketidaksiapan literasi digital pengguna yang mendegradasi posisi kreditur preferen menjadi konkuren. Kesimpulan penelitian menegaskan perlunya dilakukan rekonstruksi hukum secara komprehensif yang meliputi pembaruan substansi hukum melalui revisi Undang-Undang Hak Tanggungan untuk mempertegas tanggung jawab negara atas kegagalan sistem, penguatan struktur hukum melalui modernisasi infrastruktur siber dan unit pengawasan nasional, serta pembangunan budaya hukum digital bagi seluruh pemangku kepentingan guna mewujudkan sistem jaminan yang adil, aman, dan berkepastian hukum.

Kata Kunci: Budaya hukum digital, Hak tanggungan elektronik, Kepastian hokum, Pelindungan kreditur, Rekonstruksi hukum.

✉ Corresponding author: Eka Sugiarti
Email Address: affifaauliyaak49@gmail.com (Letjen S. Parman St No.1, West Jakarta City, Jakarta)
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INTRODUCTION

The implementation of the Integrated Electronic Mortgage Service System (*Pelayanan Hak Tanggungan Terintegrasi Secara Elektronik* or HT-el) in Indonesia marks a progressive digital transformation in land administration. Enacted under Ministerial Regulations to foster administrative efficiency, speed, transparency, and legal certainty, this system shifts traditional manual registration into a centralized digital registry. However, this digitalization paradigm introduces a critical legal paradox within the Indonesian land law system: while the electronic security right is granted an immediate and automated execution status, its structural validity remains wholly dependent on the substantive legality of the underlying land titles.

Several recent studies have scrutinized the scope of creditor protections and execution risks within mortgage frameworks. Suparno (2018) addressed the conceptual parameters of legal protections for secured creditors under traditional civil laws. In more specialized dissertation studies, Suprihanto (2021) evaluated mortgage vulnerabilities strictly when the security rights are attached to buildings erected upon public management land. Furthermore, Nadirah (2022) examined collateral safety within bankruptcy settlement procedures, while Setyorini (2023) focused on the optimization of mortgage execution mechanisms when facing structural litigation or objections raised by non-performing debtors. Lastly, Sidabarida (2024) provided a narrow evaluation regarding the legal balance and fairness for parties participating in mortgage foreclosure auctions.

Despite these extensive scholarly contributions, a significant gap in the literature remains unaddressed: previous research fails to examine the structural degradation of electronic security rights when an underlying land title is retroactively annulled by a judicial decree under a negative publication system with positive tendencies. While contemporary works treat electronic registration purely as a technological upgrade, they overlook how the absolute execution power embedded within the HT-el system can be instantly neutralized by administrative court interventions. Consequently, existing models do not resolve how a digital certificate can independently protect a creditor's preferred status when the primary public registry data is substantively flawed.

This research highlights an objective legal problem heavily validated by legal experts and judicial realities, where technical system disruptions and flawed data validation directly compromise public registry integrity. Academic literature and practical precedents reveal that technical malfunctions—such as server failures, systemic input errors by land officials, and prolonged data synchronization delays—frequently degrade creditors from their preferred legal status down to concurrent creditors. This systemic vulnerability is structurally demonstrated in the landmark precedent of Supreme Court Decision Number 31K/TUN/2020, wherein a legally registered mortgage lost its entire executive enforceability because the underlying land certificate was nullified due to initial administrative malpractice by the land registry office.

To resolve these systemic deficiencies, this study argues that a holistic legal reconstruction is necessary. This approach moves beyond temporary technical solutions to propose a structured overhaul of the digital mortgage ecosystem. By addressing the structural flaws revealed in administrative dispute precedents, this research introduces an integrated model that balances digital administrative speed with robust substantive legal protection. This solution involves upgrading legislative frameworks, harmonizing public registry liability with the Electronic Information and Transactions (ITE) Law, and fortifying institutional oversight mechanisms.

Consequently, the primary objective of this study is to comprehensively map the regulatory architecture of electronic mortgages and critically analyze the implementation risks and administrative conflicts emerging within digital public registries. Furthermore, it aims to evaluate the operational impact of administrative courts in safeguarding secured transactions and to formulate a legally sound, fair, and adaptive reconstruction model. This framework is designed to permanently secure creditor protections, fortify market trust, and ensure absolute legal certainty within the contemporary digital economy.

Based on the background and problem identification outlined above, the research questions for this study are formulated as follows:

1. How is the legal protection regulation currently constructed for secured creditors within the Integrated Electronic Mortgage System (HT-el) framework in Indonesia?
2. How is the regulation implemented, and what are the primary legal risks, technical barriers, and administrative conflicts encountered by creditors in digital public registries, particularly regarding the implications of Supreme Court Decision Number 31K/TUN/2020?
3. What is the ideal legal reconstruction model for electronic mortgage regulations to reinforce creditor protection, ensure institutional liability, and achieve substantive legal certainty in the digital era?

METHOD

This study utilizes a normative-doctrinal juridical research design rooted in reconstructive law, relying on a qualitative-interpretative approach to assess digital public registry vulnerabilities (Creswell, J. W., & Poth, C. N.: 2018). The geographical location of this research is centered within the East Jakarta jurisdiction, focusing specifically on the data-handling infrastructure of the East Jakarta Land Registry Office (*Kantor Pertanahan BPN Jakarta Timur*). The precise research participants were selected through purposive sampling (Hadjon, P. M.: 1987).to ensure an expert-level assessment of the digital registry ecosystem, comprising four institutional informant groups: the Credit Administration Division at Bank Rakyat Indonesia (BRI) Ciputat Branch, active debtors under secured bank facilities, the administrative staff at the East Jakarta Land Office, and practicing Land Deed Officials (*Pejabat Pembuat Akta Tanah* or PPAT) registered in East Jakarta. The research operationalized its stages through three distinct, sequential phases:

Figure 1. Mind map for Phases of Legal Reform as Digital Mortahe and Public Registries

Phase 1 maps the normative registry structure to establish the baseline legal framework governing the electronic mortgage system. Phase 2 conduct the analysis of practical implementation risks and technical anomalies by gathering empirical data from the selected institutional stakeholders. Phase 3 is to formulate a structural legal reconstruction model that bridges the gaps between rigid statutory demands and digital registry realities.

The primary research instruments deployed for data collection consist of structured document inventories and open-ended interview guides. Accordingly, the data-gathering stage was operationalized through a dual-layered approach combining comprehensive document analysis with targeted field research.

For the documentary component, primary and secondary legal materials were extracted, encompassing foundational legislation such as the Indonesian Mortgage Law (*Undang-Undang Hak Tanggungan* or UUHT), Government Regulation Number 24 of 1997 on Land Registration, and the landmark judicial precedent of Supreme Court Decision Number 31K/TUN/2020.

To corroborate these secondary materials, field research was conducted via semi-structured interviews with the selected institutional informants, utilizing audio-recording devices to generate formal textual transcripts. Data trustworthiness was established through a qualitative triangulation technique, systematically cross-verifying the normative textual constraints found in Ministerial Regulation (*Peraturan Menteri/Permen*) Number 5 of 2020 with the operational realities and systemic anomalies reported by the land registry staff and practicing PPATs.

The data analysis follows a qualitative juridical method where the output of each research instrument is evaluated through a distinct analytical lens. For the statutory and documentary data, a deductive-interpretative technique was applied, utilizing Philipus M. Hadjon's Theory of Legal Protection to evaluate the structural gaps between the state's negative publication system and automated electronic execution rules.

Concurrently, the empirical data derived from the interview guides were processed through qualitative content analysis. This involved organizing raw field data into distinct operational and thematic categories, such as server errors, data validation delays, and preferred-to-concurrent status degradation. By systematically synthesizing these statutory contradictions with the thematic field data, this study draws robust, legally sound conlusions regarding institutional liability through a purely qualitative juridical framework.

RESULTS AND DISCUSSION

The Regulatory Construction of Secured Creditor Protection within the Integrated Electronic Mortgage System (HT-el) in Indonesia

The contemporary normative legal architecture governing the protection of secured creditors holding mortgage certificates through the Integrated Electronic Mortgage system (*Pelayanan Hak Tanggungan Terintegrasi Secara Elektronik* or HT-el) is structurally layered across statutory hierarchies. At the foundational legislative tier, Article 1, Clause (1) of Law Number 4 of 1996 concerning Mortgage Rights over Land and Objects Associated with Land (*Undang-Undang Hak Tanggungan* or UUHT) defines a mortgage as an *accessoir* (dependent) security right that grants a preferred position and immediate execution powers to the receiving creditor upon a debtor's default.

However, because the statutory text of the 1996 UUHT was historically framed within a paper-based registration framework, the contemporary shift toward automated registries is normatively driven by Law Number 11 of 2008 concerning Electronic Information and Transactions (*Undang-Undang Informasi dan Transaksi Elektronik* or UU ITE), as amended by Law Number 19 of 2016. The digital execution of this system is technically operationalized through the Minister of Agraria and Spatial Planning/Head of National Land Agency (*Permen ATR/BPN*) Regulation Number 5 of 2020 on Integrated Electronic Mortgage Services.

A critical evaluation of this regulatory structure reveals that the transition from the legacy regulatory regime under *Permen ATR/BPN* Number 9 of 2019 to the current framework under *Permen ATR/BPN* Number 5 of 2020 was intentionally designed to address core friction points concerning administrative accountability and user inclusivity. Under the former 2019 regulation, electronic registration was treated merely as an optional pathway, creating parallel manual and digital procedures that hindered systematic digitization. Furthermore, it strictly required creditors to possess a registration certificate from the Financial Services Authority (*Otoritas Jasa Keuangan* or OJK), which structurally excluded individual creditors since OJK regulations do not govern non-corporate lenders.

The enactment of *Permen ATR/BPN* Number 5 of 2020 resolved these inconsistencies by expanding the technical definition of "users" to include individual creditors and clarifying the shared administrative burden between Land Deed Officials (*Pejabat Pembuat Akta Tanah* or PPAT) and financial institutions. To map out the shifting focus and procedural adjustments between these two core regulatory milestones, the structural changes are consolidated and synthesized in Table 1.

Table 1. Comparative Analysis of HT-el Registration Frameworks

Regulatory Aspect	**Ministerial Regulation of ATR/BPN No. 9 Year 2019**	**Ministerial Regulation of ATR/BPN No. 5 Year 2020**
Primary Applicant	Registered users, limited to institutional creditors or authorized representatives. The creditor held primary accountability as the core applicant for HT-el services.	Broadened to include registered individuals and corporate entities, decentralizing applicant exclusivity.
Division of Labor	Established a general application structure without a specific technical separation of tasks between users.	Mandates a specific division: PPAT handles new registrations/transfers, while lenders manage modifications, discharge (*roya*), or data corrections.
Document Requirements	Enforced the mandatory submission of an electronic Truth and Authenticity Statement Form (*Surat Pernyataan*).	Simplifies compliance by matching generic statutory terms, dropping the explicit, separate *Surat Pernyataan* format requirement.
Statement Form Format	Rigidly structured and detailed in the explicit statutory annex of Appendix I.	De-linked from rigid predefined annexes, allowing integrated digital validation.

Original Copy Custody	Applicants were strictly mandated to archive and retain all original physical documents for legal proof.	Removes explicit clauses dictating the retention of initial physical items by the applicant within the main regulatory body.
Core Operational Focus	Prioritized the legal and technical accountability of individual applicants during digital filing.	Prioritizes administrative division and procedural efficiency of the digital system.
Policy Direction	Focused heavily on personal legal accountability supported by stringent statement checks.	Focuses heavily on streamlining administrative workflows and expanding user access.

It can be observed from Table 1 that the general trend reflects a regulatory evolution moving away from an individual legal-accountability framework toward a highly segmented, administrative efficiency model. While the 2019 framework focused extensively on binding the applicant to the absolute veracity of the data through rigid statutory statement forms and mandatory paper preservation, the 2020 regulation minimizes these formal checkpoints to accelerate digital processing times. This shift is critical because it prioritizes administrative processing speed—such as the automated issuance of electronic mortgage certificates on the seventh day following confirmation—over the substantive verification of underlying document validity.

When analyzed through Philipus M. Hadjon's Theory of Legal Protection, this regulatory setup reveals a deep structural imbalance between preventive and repressive protections for digital lenders. From a preventive standpoint, the regulation relies on digital data publication via the platform to shield lenders from third-party interventions. However, because the system carries out a purely formal check rather than a substantive evaluation of data accuracy, this protection remains inherently fragile. Lenders are granted a digital parate executie tool, yet they remain highly vulnerable to systemic disruptions and underlying property disputes.

This regulatory construction reflects the theoretical and practical limitations of Indonesia's negative registration system with positive tendencies, as set out in Article 19 of the Basic Agrarian Law (UUPA) and Article 32 of Government Regulation Number 24 of 1997. Under this system, the state records land data without guaranteeing its absolute substantive truth. Lenders operate under the assumption that a registered digital certificate secures their position; however, if the underlying land title contains administrative defects or is retroactively overturned by a court decree, the electronic mortgage automatically falls with it. Consequently, while the regulations create a rapid, digital workflow, they fail to provide absolute protection, leaving the creditor's preferred status fragile and entirely dependent on the substantive validity of the physical registry.

The Implementation and Operational Risks of Electronic Mortgages: Administrative Conflicts and the Precedent of Supreme Court Decision Number 31K/TUN/2020

The empirical implementation of the Integrated Electronic Mortgage system (HT-el) within land registry offices reveals a profound gap between digitized administrative objectives and field operational realities. Under the regulatory authority of Permen ATR/BPN Number 5 of 2020, the automated process is designed to guarantee swift service, under which electronic mortgage certificates are systematically generated on the seventh day following the payment of non-tax state revenue (Penerimaan Negara Bukan Pajak or PNBP).

However, field assessments and qualitative interviews conducted at the land offices confirmed that manual workflows still heavily interfere with digital administration. Land registry officials face significant infrastructure limitations, repetitive system validation disruptions, and delayed certificate validation times that frequently fail to match Standard Operating Procedures (SOPs). To summarize the specific operational and administrative friction points experienced by Land Deed Officials (PPAT) and financial institutions during this digital transition, the core implementation barriers are organized in Table 2.

Table 2. Operational Obstacles and Risks in HT-el Implementation

Type of Obstacle	**Specific Operational Issue Encountered in the Field**	**Implication for Creditor's Legal Status**
System and Infrastructure Failures	Severe server downtime, connectivity drops, and technical application errors during electronic filing.	Delays mortgage ranking and forces costly, legally ambiguous reprints or repayments of PNBP.
Flawed Data Input	Data discrepancies between physical certificates and digital registry inputs by land officers or PPATs.	Nullifies formal registry validation, rendering the electronic document legally fragile.
SOP Compliance Delays	Prolonged checkpoint and certificate validation times by land registry officials, heavily exceeding predefined timelines.	Prolongs processing windows, creating high-risk gaps where property remains uncollateralized.
Digital Literacy Deficiencies	Widespread failure by older PPATs to update personal data, combined with banks failing to activate partner (*mitra*) accounts.	Triggers automatic system cancellations or total account deletions, stalling secured transactions.
Correction and Revision Gaps	Inverted or slow administrative responses from land registry staff when handling data correction requests.	Exceeds the strict 30-day structural correction window, permanently risking the security's validity.

It can be observed from Table 2 that the general trend of electronic mortgage implementation points to a systemic translation of manual, paper-based administrative errors into digital vulnerabilities. These technical and administrative impediments do not merely represent minor bureaucratic inconveniences; rather, they directly jeopardize the legal stability of financial transactions by exposing lenders to severe financial losses.

When the electronic registry encounters data input disparities or experiences server collapses that cause inaccurate priority ranking outputs, the system strips the lender of its protective preferred class. In the event of a subsequent debtor default or breach of contract, the lender's structural ability to invoke automated foreclosure actions under Article 6 of the Mortgage Law is entirely compromised, degrading its legal position to that of an unprotected, concurrent creditor.

This structural fragility was critically highlighted in the landmark precedent of Supreme Court Decision Number 31K/TUN/2020. In this case, the administrative court adjudicated a dispute where a primary land certificate (Sertifikat Hak Milik or SHM)—which had already been pledged to a stateowned bank (PT Bank Rakyat Indonesia) and registered as an electronic mortgage security—was found to be overlapping with an older certificate issued in 1983 due to administrative negligence by the land office. The administrative court ruled that the later certificate was substantively invalid and ordered the land office to cancel and strike the title from the public record books. Because a mortgage is explicitly governed by the principle of accessoir—meaning its existence is legally dependent on a valid underlying property title—the retroactive judicial annulment of the debtor's SHM instantly nullified the bank's entire mortgage security interest.

From a critical perspective, the case of Decision Number 31K/TUN/2020 exposes a fundamental defect in the automated validation mechanisms of the HT-el platform. The current digital system operates strictly on a formal checklist approach (verifying certificate numbers and matching names) but remains fundamentally incapable of checking for ongoing ownership disputes, hidden overlapping boundaries, or past administrative malpractice.

When the administrative court strikes down a title due to an initial administrative error, the bank's electronic security right collapses alongside it, leaving the financial institution with a worthless digital certificate and no asset to auction. This creates a severe legal gap under Indonesia's negative system, as there is currently no regulatory framework or legal mechanism within the BPN or Permen ATR/BPN Number 5 of 2020 that provides state compensation or institutional liability to indemnify innocent, preferred lenders who lose their security due to public registry errors.

The Ideal Legal Reconstruction Model for Electronic Mortgage Regulations in the Digital Era

To resolve the systemic vulnerabilities and administrative conflicts identified within the current digital registry, a comprehensive legal reconstruction must be enacted. This study introduces an integrated reconstruction model designed to transition the electronic mortgage framework from an unstable formal registry into a substantively secure digital system. Moving beyond isolated technical patches, this model applies Lawrence M. Friedman's Legal System Theory to systematically restructure the electronic mortgage ecosystem across three fundamental pillars: legal substance, legal structure, and legal culture. To demonstrate the operationalization of this holistic model, the core reconstruction components are synthesized and detailed in Table 3.

Table 3. Structural Matrix of the Ideal Legal Reconstruction Model for HT-el

Legal Component	Target Area of Legal Reform	Core Mechanism of Reconstruction	Substantive Objective
Legal Substance	Statutory & Legislative Frameworks	Amending the 1996 Mortgage Law (UUHT) to formally integrate digital archives and establish absolute state indemnity for registry errors.	Achieves structural alignment with the ITE Law and provides state-backed financial indemnification for preferred lenders.
Legal Structure	Institutional Capacity & Technology	Upgrading the National Land Agency's (*ATR/BPN*) cyber infrastructure, deploying end-to-end blockchain validation, and	Eliminates technical server malfunctions, prevents manual input errors, and provides real-time checks for overlapping land boundaries.

		forming a specialized digital audit oversight unit.	
Legal Culture	Digital Literacy & Institutional Habits	Mandating continuous professional cyber-compliance training for PPATs and standardizing automated verification APIs for corporate lenders.	Eliminates administrative negligence, mitigates systemic fraud driven by land-mafia networks, and ensures institutional platform transparency.

It can be observed from Table 3 that the general trend of the proposed model points toward shifting absolute liability for public record accuracy away from innocent individual users and placing it squarely upon the state apparatus. By upgrading the legislative substance, the National Land Agency moves away from its traditional, passive role under the negative publication system and assumes an active, legally accountable stance as an authenticated database provider.

Consequently, if a preferred creditor's electronic security right is neutralized in the future due to an administrative court decree—such as the title annulment seen in the precedent of Supreme Court Decision Number 31K/TUN/2020—the state indemnity clause guarantees financial compensation to the lender, thereby maintaining market liquidity and credit stability.

Furthermore, the structural integration of advanced cryptographic checking frameworks within the HT-el platform transforms data validation from a formal clerical procedure into a substantive screening process. Rather than blindly processing electronic mortgage requests based on text-matched strings, the platform can dynamically intercept hidden ownership conflicts and cross-reference underlying physical land logs prior to automated security registration.

Combined with a modernized digital legal culture among PPATs and financial institutions, this reconstruction effectively addresses the long-standing tension between administrative processing speed and structural legal safety. Ultimately, this reconstructive approach successfully fortifies creditor protection, restores foundational trust in land transactions, and delivers genuine, substantive legal certainties within the contemporary digital economy.

CONCLUSION

This study yields three fundamental conclusions regarding the digital transformation of secured transactions in Indonesia:

First, the normative regulatory construction under the Minister of Agraria and Spatial Planning Regulation (*Permen ATR/BPN*) Number 5 of 2020 facilitates electronic administrative efficiency but fails to provide absolute substantive protection to secured lenders. This institutional instability stems from its structural intersection with Indonesia's negative land registration publication system with positive tendencies, which dictates that the state records land titles without guaranteeing their absolute validity. Consequently, the current framework prioritizes digital processing speed over long-term legal security. It is strongly recommended that the House of Representatives (DPR) and the Ministry of Agraria and Spatial Planning/BPN amend the 1996 Mortgage Law (UUHT) to formally integrate digital archives and establish a state-backed insurance or absolute compensation fund. This legislative upgrade ensures that preferred lenders are financially indemnified if their electronic security interests are retroactively nullified by judicial decrees resulting from public registry errors.

Second, in practice, the Integrated Electronic Mortgage system (HT-el) only conducts formal checklist verifications rather than examining the substantive validity of land titles, thereby creating critical administrative vulnerabilities. As demonstrated by the landmark precedent of Supreme Court Decision Number 31K/TUN/2020, when a primary title certificate is judicially nullified due to initial land registry malpractice, the electronic mortgage instantly collapses due to its *accessoir* (dependent) nature. This regulatory gap strips lenders of their preferred status (*droit de preference*) and automatically downgrades them into a high-risk concurrent class without any state-backed liability or financial compensation. For this suggestion, authors recommend the commercial banking institutions and financial entities must implement rigorous physical and material due diligence when assessing collateral properties in the field. Financial institutions should not depend entirely on automated system confirmations; instead, they must independently verify historical land logs and physical boundary alignments to mitigate the risk of hidden ownership disputes or land-mafia interventions.

Third, to resolve these systemic deficiencies, a holistic legal reconstruction model spanning Lawrence M. Friedman's legal system dimensions must be executed. This comprehensive framework requires reforming the legislative substance to bind the state to absolute indemnity clauses, optimizing cyber infrastructures through advanced cryptographic tracking tools to detect boundary overlaps, and transforming the digital legal culture of registry officials, commercial banks, and Land Deed Officials (PPAT) to eliminate administrative negligence. For Future legal scholars, you all should explore unresolved operational and technological dimensions by conducting comparative legal studies on digital public registries in jurisdictions that fully implement positive publication systems, such as Singapore or Australia. Additionally, future socio-legal and legal-technical studies should deeply investigate the practical integration of secure blockchain architecture within the national land registry to completely insulate digital archives from manipulative data entry and fraudulent networks.

REFERENCE

Adinegoro, K. R. R. (2023). Analisis transformasi digital layanan publik pertanahan: Hak tanggungan elektronik pada Kementerian Agraria dan Tata Ruang. Jurnal Administrasi Publik, 19(1), 26–49. https://doi.org/10.21787/jap.v19i1.1824

Akwan, I. A., [Mohon lengkapi nama penulis kedua, ketiga, dst. Jangan gunakan et al.]. (2025). Pengaruh implementasi kebijakan digitalisasi hak tanggungan atas tanah terhadap kualitas pelayanan publik urusan pertanahan di Kota Bengkulu Provinsi Bengkulu. Jurnal Tata Kelola Pertanahan, 15(1), 37–49.

Amalia, N., & Hernawan, D. (2024). Analisis yuridis penguasaan tanah terlantar ex hak guna usaha oleh masyarakat Desa Kasomalang. Litigasi, 25(1), 124–142. https://doi.org/10.23969/litigasi.v25i1.11024

Asbari, M., [Mohon lengkapi nama penulis kedua, ketiga, dst. Jangan gunakan et al.]. (2026). Rekonstruksi peran hukum dalam perumusan kebijakan publik: Menjembatani legal formalism dan policy effectiveness. Journal of Law, Policy, and Governance, 1(1), 1–8.

Balqis, N. A., [Mohon lengkapi nama penulis kedua, ketiga, dst. Jangan gunakan et al.]. (2025). Analisis perbandingan sistem pendaftaran tanah Indonesia dengan negara publikasi positif. Jurnal Komparasi Hukum Agraria, 4(2), 10094–10109.

Bowo, D. A., Maryono, M., & Widjajaatmadja, D. A. (2023). Kepastian hukum terhadap sertifikat hak tanggungan terkait akibat hukum atas kepemilikan hak atas tanahnya dibatalkan oleh putusan pengadilan. Jurnal Multidisiplin Indonesia, 2(2), 418–425.

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications.

Erizal, G. F. (2023). Penerapan sistem pendaftaran tanah yang menggunakan stelsel negatif bersendikan positif pada objek tanah yang telah terdaftar di kantor pertanahan. Jurnal Notarius, 2(1), 145–154.

Gultom, S. E. R. J., & Selamet, H. (2023). Metode penelitian kualitatif dalam bingkai socio-legal. Jurnal Metodologi Hukum, 3(1), 44–56.

Handayani, D., Halim, A. N. Z., & Mulyadi, M. (2025). Pelindungan hukum terhadap kreditur dikaitkan dengan adanya penolakan permohonan pendaftaran hak tanggungan elektronik di kantor pertanahan. Cendekia: Jurnal Penelitian dan Pengkajian Ilmiah, 2(9), 1747–1757.

Hanisa, I., Handayani, I. G. K. A. R., & Karjoko, L. (2025). Implikasi hukum sengketa sertifikat ganda terhadap kepastian hak atas tanah dan asas kepastian hukum di Indonesia. Jurnal Hukum dan HAM Wara Sains, 4(01), 144–150. https://doi.org/10.58812/jhhws.v4i01.1844

Harahap, E. D. S. E. M. (2023). Kajian hukum terhadap pertanggungjawaban pejabat pembuat akta tanah (PPAT) atas surat pernyataan keabsahandan kebenaran dokumen elektronik dalam pendaftaran hak tanggungan elektronik. Jurnal Kemahasiswaan Hukum & Kenotariatan, 53(1), 1–19.

Nadirah, I. (2022). Pelindungan hukum terhadap kreditur dalam pelaksanaan perdamaian kepailitan [Doctoral dissertation, Universitas Islam Sultan Agung]. Repositori UNISSULA.

Nugroho, O. S. (2026). Rekonstruksi pelindungan hukum berbasis keadilan. Jurnal Ilmiah Sultan Agung, 19(1), 45–58.

Nurwulan, P. (2021). Implementasi pelayanan hak tanggungan elektronik bagi kreditur dan pejabat pembuat akta tanah. Jurnal Hukum Ius Quia Iustum, 28(1), 183–202. https://doi.org/10.20885/iustum.vol28.iss1.art9

Pangesti, S., & Sahetapy, P. P. (2023). Pendaftaran hak tanggungan sebelum dan setelah berlakunya Peraturan Menteri Agraria/Kepala BPN Nomor 5 Tahun 2020. Tunas Agraria, 6(2), 71–92. https://doi.org/10.31293/ta.v6i2.6821

Putra, J. K., & Berliani, R. A. (2023). Pelindungan hukum bank terhadap objek jaminan hak tanggungan yang daluarsa sebelum pelunasan kredit jatuh tempo. Jurnal de Jure, 15(2), 198–212.

Royani, M. N., & Silviana, A. (2025). Hambatan dalam implementasi Peraturan Menteri ATR/Ka BPN Nomor 5 Tahun 2020 pelayanan hak tanggungan terintegrasi secara elektronik. Acta Diurnal: Jurnal Ilmu Hukum Kenotariatan, 8(2), 254–268.

Salam, S. (2019). Rekonstruksi paradigma filsafat ilmu: Studi kritis terhadap ilmu hukum sebagai ilmu. Ekspose: Jurnal Penelitian Hukum dan Pendidikan, 18(2), 885–896. https://doi.org/10.30863/ekspose.v18i2.492

Setyorini, D. (2023). Optimalisasi konstruksi eksekusi hak tanggungan terhadap keberatan debitur dalam penyelesaian kredit macet berdasarkan Undang-Undang Nomor 4 Tahun 1996 tentang Hak Tanggungan [Doctoral dissertation, Universitas Trisakti]. Repositori Universitas Trisakti.

Sidabarida, B. (2024). Pelindungan hukum terhadap para pihak dalam pelaksanaan lelang eksekusi hak tanggungan [Doctoral dissertation, Universitas Gadjah Mada]. Repositori UGM.

Supreme Court of the Republic of Indonesia. (2020). Decision Number 31K/TUN/2020.

Suprihanto, A. (2021). Pelindungan hukum kreditur pemegang hak tanggungan atas hak guna bangunan di atas tanah hak pengelolaan [Doctoral dissertation, Universitas Hasanuddin]. Repositori UNHAS.

Susantio, C., & Caesar, A. B. (2025). Pelindungan hukum terhadap kreditur terkait batalnya sertipikat hak milik atas tanah objek hak tanggungan. Cerdika: Jurnal Ilmiah Indonesia, 5(4), 1617–1627. https://doi.org/10.59141/cerdika.v5i4.2495

Wulansari, H., Junarto, R., & Mujiburohman, D. A. (2025). Mewujudkan sistem pendaftaran tanah publikasi positif. Jurnal Kebijakan dan Administrasi Pertanahan, 5(1), 61–74.