

LEGAL CERTAINTY LANDRIGHTS HOLDERS IN THE TRANSITION FROM CONVENTIONAL LAND CERTIFICATES TO ELECTRONIC LAND CERTIFICATES

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Abstract

Advances in information technology have driven the modernization of land administration through the implementation of electronic land certificates as part of digital public service transformation. Data from the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) shows that by 2025, 5,581,403 electronic certificates have been issued across 486 Land Offices in Indonesia. This transition raises concerns regarding legal certainty for land rights holders. This study aims to analyze the urgency of legal certainty and how it is realized in the transition process. Using an empirical legal method with a qualitative approach, the research was conducted at the Semarang City Land Office, notary offices, and law firms through observation, interviews, document analysis, and literature review. The study applies the theory of legal certainty by Gustav Radbruch and the theory of the nature of the state's operations by Nonet and Selznick. The findings show that legal certainty is essential to ensure clarity of the subject, object, and status of land rights. Electronic certificates have equal legal validity to conventional ones, supported by integrated data, electronic signatures, unique codes, and secure digital storage, thereby improving both legal certainty and administrative efficiency.

KEYWORDS

Legal Certainty, Land Rights, Electronic Land Titles, Land Administration

Introduction

The digital revolution has brought about significant changes in government administration and public services. In the era of the Fourth Industrial Revolution, the use of information technology is no longer an option but a necessity for improving efficiency, transparency, and the quality of services provided to the public.¹ Digitalization enables the government to manage data and services more quickly and in an integrated manner, while also reaching a wider audience.

The Indonesian government's commitment to developing digital-based public services is reflected in Indonesia's improved ranking in the 2024 UN E-Government Survey, rising to 64th place out of 193 United Nations member states—an increase of 13 ranks compared to 2022.² This improvement demonstrates the government's seriousness in developing the Electronic-Based Government System (SPBE) as an effort to enhance the quality of public services.

Digital transformation in government is being implemented through the enforcement of Presidential Regulation No. 95 of 2018 on the Electronic-Based Government System (SPBE). This policy promotes the use of information and communication technology in government administration to create public services that are more effective, efficient, transparent, and accountable.³

SPBE is designed to achieve integrated government governance through the integration of systems, data, and services across government

¹ Faturachman Alputra Sudirman Saidin, *E-Government: Transformasi Digital Dalam Tata Kelola Pemerintahan* (Eureka Media Aksara, 2025).

² Kementerian PANRB, "Indonesia Naik 13 Peringkat Pada UN E-Government Survey 2024, Menteri PANRB: Kolaborasi Akselerasi Transformasi Digital Pemerintah Melalui SPBE," 2024, <https://menpan.go.id/site/berita-terkini/indonesia-naik-13-peringkat-pada-un-e-governmentsurvey-2024-menteri-panrb-kolaborasi-akselerasi-transformasi-digital-pemerintah-melalui-spbe>.

³ Bagas Dwi Kencono, Honi Hari Putri, and Tyas Wida Handoko, "Transformasi Pemerintahan Digital : Tantangan Dalam Perkembangan Sistem Pemerintahan Berbasis Elektronik (SPBE) Di Indonesia," *JlIP (Jurnal Ilmiah Ilmu Pendidikan)* 7, no. 2 (2024): 1498–1506, <https://doi.org/10.54371/jiip.v7i2.3519>.

agencies. The implementation of SPBE is expected to create a bureaucracy that is more responsive to the needs of the public and capable of continuously improving the quality of public services.⁴

Digital transformation in the public sector is not merely about the adoption of technology; it also involves changes in work culture, organizational structure, leadership styles, and the way the government delivers services to the public. Mergel, Edelmann, and Haug state that digital transformation is a comprehensive process of change that requires government organizations to adapt to technological advancements and enhance human resource capacity in effectively managing information and public services.⁵ The success of digital transformation depends not only on technological infrastructure but also on institutional readiness and human resources in implementing it.

One sector undergoing digital transformation is land administration. The government, through the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), has begun implementing the digital transformation of land certificates as a step toward modernizing the land registration system. This policy is regulated under Ministerial Regulation ATR/BPN No. 3 of 2023 on the Issuance of Electronic Documents in Land Registration Activities, which stipulates that documents related to land registration activities may be issued in electronic form. This digitization aims to improve service efficiency and facilitate easier public access to land information and enable national integration of land data to support more effective land development and governance.⁶

⁴ Pemerintah Republik Indonesia, "Peraturan Presiden Nomor 95 Tahun 2018 Tentang Sistem Pemerintahan Berbasis Elektronik," Pub. L. No. 95 (2018), <https://peraturan.bpk.go.id/Details/96913/perpres-no-95-tahun-2018>.

⁵ Hwihanus, Maulidah Narastri, and Muhammad Taufiq Hidayat, "Transformasi Digital Dan Pemanfaatan Teknologi Dalam Meningkatkan Efisiensi Dan Transparansi Kinerja Instansi Pemerintah," *Journal of Management and Accounting* 8, no. 2 (2025), <https://ejurnal.unisda.ac.id/index.php/J-MACC/article/view/10159>.

⁶ Sy. Arifin Habibi et al., "Transformasi Digital Administrasi Pertanahan: Implementasi Dan Tantangan Sertipikat Elektronik Di Indonesia," *Rio Law Jurnal* 6, no. 1 (2024): 499–507, <https://doi.org/10.36355/rlj.v6i1.1582>.

Within Indonesia's land law system, land registration serves a vital function in ensuring legal certainty and safeguarding land rights. This is affirmed in Article 19 of Law No. 5 of 1960 on Basic Agrarian Principles, which states that the government administers land registration throughout Indonesia to ensure legal certainty for land rights holders.

An electronic land certificate is an official document issued by the government as proof of the registration of land rights conducted digitally.⁷ The Merriam-Webster Dictionary defines "land certificate" as "a document issued by a government evidencing the official registration of the record of a title to real property."⁸

Legal certainty regarding land rights essentially encompasses three main elements: certainty regarding the subject, the object, and the status of the land rights. Certainty regarding the subject pertains to who holds the land rights; certainty regarding the object pertains to the location, boundaries, and area of the land parcel; while certainty regarding the rights pertains to the type and status of the land rights held. These three elements constitute the basis of the land registration system in ensuring legal protection for rights holders and in preventing land disputes or conflicts.⁹

Legal certainty is a fundamental principle in the administration of law aimed at providing a sense of security, clarity, and confidence to legal subjects regarding the validity and application of the law.¹⁰ The Cambridge Dictionary defines certainty as "the state of being completely confident or having no doubt about something."¹¹

⁷ Elvrina and Siti Dina Maulidah, "Kekuatan Pembuktian Sertifikat Tanah Elektronik Dalam Menjamin Kepastian Hukum Hak Milik Atas Tanah," *Jurnal Hukum Dan Kewarganegaraan* 16, no. 2 (2025): 2681–90, <https://ejournal.cibinstititut.com/index.php/causa/article/view/4663>.

⁸ Merriam-Webster, "Merriam-Webster Dictionary," accessed December 16, 2025, <https://www.merriam-webster.com/>.

⁹ Winny Sanjaya, "Dampak Kebijakan Satu Peta/One Map Policy Di Bidang Pertanahan Terhadap Sertipikat Sebagai Bukti Kepemilikan Hak Atas Tanah Di Indonesia," *LITRA:Jurnal Hukum Lingkungan Tata Ruang Dan Agraria* 2, no. 2 (2023), <https://doi.org/https://doi.org/10.23920/litra.v2i2.1291>.

¹⁰ Ajeng Putri Wanapertiwi, "Kepastian Hukum Terhadap Sertipikat Tanah Berbasis Elektronik Sebagai Bukti Kepemilikan Hak Atas Tanah Di Indonesia" (Universitas Islam Sultan Agung, 2023).

¹¹ Cambridge University Press & Assessment, "Cambridge Dictionary," accessed December 16, 2025, <https://dictionary.cambridge.org/>.

Technological advancements in the electronic land certificate system also contribute to strengthening this legal certainty, particularly regarding the certainty of the land object. In the conventional system, the determination of land boundaries and locations is generally conducted through field surveys and recorded on analog maps, which have limitations in data integration and accuracy.

Through a digital system, the determination of land parcel locations can utilize Global Positioning System (GPS) technology and coordinate-based mapping integrated with the One Map Policy. This system enables spatial data on land parcels to be integrated into a single, more accurate information system, thereby simplifying the verification process and minimizing the potential for overlapping land ownership.¹²

The electronic land certificate program aims to achieve 100% digitization by 2026, with the first phase converting 50% of the nation's 124 million land parcels by 2025. Electronic certificates represent a step taken by the government to align with modern trends toward Industry 4.0 and to enhance efficiency in terms of time, cost, and service transparency. According to data from the official website of the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), as of August 14, 2025, a total of 5,581,403 electronic certificates had been issued across 486 Land Offices.¹³

The implementation of electronic land certificates is part of the government's efforts to improve the quality of land administration services through the use of digital technology. This aligns with the goals of **Peace, Justice, and Strong Institutions**.¹⁴ Electronic land certificates are stored in an electronic vault system equipped with electronic signatures and

¹² Sanjaya, "Dampak Kebijakan Satu Peta/One Map Policy Di Bidang Pertanahan Terhadap Sertipikat Sebagai Bukti Kepemilikan Hak Atas Tanah Di Indonesia."

¹³ Kementerian ATR/ Kepala BPN, "Capaian Penerbitan Sertifikat Elektronik," 2025, <https://www.atrbpn.go.id/sertipikat-elektronik>.

¹⁴ "SDGs 16," n.d., <https://sdgs.un.org/goals>.

unique identification codes to ensure the authenticity and security of the documents.¹⁵

This system is expected to reduce the risk of loss, damage, or forgery of documents, which frequently occur with conventional certificates. Furthermore, the digital system allows land administration processes to be carried out in a more transparent and efficient manner.

The implementation of electronic land certificates still faces various challenges, including limited technological infrastructure, uneven internet access, and the readiness of human resources to manage digital systems. In addition, the public's understanding of the electronic certificate system also needs to be improved through broader outreach and education.¹⁶ Public concerns regarding digital data security are also an issue that must be addressed in the implementation of this policy.

Based on the above, this study focuses on the issue of the importance of legal certainty in the land administration system, particularly in the process of transitioning from conventional land certificates to electronic land certificates. The shift from a physical system to a digital one raises various questions regarding how legal protection for land rights holders can be ensured.

This study aims to identify and analyze the urgency of legal certainty for land rights holders in the process of converting conventional land certificates into electronic land certificates. This study also identifies and analyzes how legal certainty for land rights holders is realized in the electronic land certificate system within the practice of land administration in Indonesia, thereby providing an overview of the legal protection afforded to the public in the era of land administration digitization.

¹⁵ Habibi et al., "Transformasi Digital Administrasi Pertanahan: Implementasi Dan Tantangan Sertipikat Elektronik Di Indonesia."

¹⁶ Syarifatul Hidayah et al., "Tantangan Dan Peluang Sertifikat Elektronik Dalam Reformasi Pendaftaran Tanah Di Era Digital," *Jurnal Ilmiah Nusantara (JINU)* 1, no. 6 (2024): 186–99, <https://ejurnal.kampusakademik.co.id/index.php/jinu/article/view/2793>.

Methods

This study employs a qualitative approach within the framework of empirical legal research, aiming to gain an in-depth understanding of the implementation of the transition from conventional land certificates to electronic land certificates, as well as its implications for legal certainty for land rights holders. The qualitative approach was chosen because it is capable of describing legal phenomena descriptively based on experiences, perspectives, and practices observed in the field.

This study focuses on two main aspects: the importance of legal certainty for land rights holders in the land certificate transition process, and how such legal certainty is realized in land administration practices in Indonesia. Through this approach, the study not only examines applicable legal norms but also examines how these norms are applied in practice by relevant institutions and actors in the land sector.¹⁷

This study was conducted at the Semarang City Land Office, a notary office, and a law firm as research sites, as these institutions have direct authority over land registration and the implementation of electronic land certificates. Data collection was carried out using several methods, namely observation, interviews, and document analysis.

Observations were carried out through direct monitoring of land administration processes concerning the transition from conventional land certificates to electronic ones..¹⁸ In-depth interviews were conducted with several informants who play a role in land administration practices. A documentary study was also conducted through the examination of various documents, laws and regulations, archives, and legal literature relevant to the research subject.

The data used in this study consists of primary data obtained from interviews and observations, as well as secondary data obtained through a

¹⁷ Lexy J. Moleong, *Metodologi Penelitian Kualitatif* (Remaja Rosdakarya, 2010).

¹⁸ John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (SAGE Publications, 2009).

literature review of books, scientific journals, laws and regulations, and official documents related to land administration.¹⁹

To ensure the validity of the data, this study employed triangulation by comparing data obtained from various sources and data collection methods, thereby ensuring the research findings are scientifically accountable.²⁰

Data analysis in this study was conducted using the Miles and Huberman interactive analysis model, which comprises three stages: data reduction, data presentation, and drawing conclusions. Data reduction was performed by sorting and simplifying data from interviews, observations, and documentation in accordance with the research focus. The reduced data was presented in the form of systematic descriptive narratives. The final stage involved drawing conclusions, which was carried out gradually through the interpretation of research findings.²¹

Result and Discussion

An electronic certificate is a land title issued via an electronic system in digital form, where both physical and juridical data are recorded in the electronic Land Book (BT-el) and the electronic Survey Document (SU-el). Based on research conducted at the Semarang City Land Office, the transition from conventional land certificates to electronic land certificates is driven by technological advancements and the increasing complexity of land data management. Analog systems have limitations in managing ever-increasing data, so the implementation of an electronic system is considered more practical, easily accessible, and capable of enhancing transparency in land administration services.

¹⁹ Moleong, *Metodologi Penelitian Kualitatif*.

²⁰ Ibid.

²¹ Matthew B. Miles, A. Michael Huberman, and Johnny Saldana, *Qualitative Data Analysis* (SAGE Publications, 2014).

The differences between conventional land certificates and electronic land certificates, as revealed in the research, can be observed in the document format, data storage system, document codes, signatures, and the way the public accesses land information. Conventional land certificates generally take the form of a physical book containing copies of the land register and survey documents. These documents contain legal data regarding the landowner and the basis for acquiring rights, as well as physical data related to the location, area, and boundaries of the land parcel.

An electronic land certificate is a digital land document that is issued and maintained within an electronic system managed by the land agency. The electronic certificate consists of two parts: one containing land data information and the other displaying a digital map of the land parcel. With this system, land data is no longer stored solely in physical form but is also recorded in a digital system, making it easier to access and manage. In the conventional system, multiple identification numbers were used, including the Title Number, Survey Certificate Number, Parcel Identification Number (NIB), and Parcel Map Number. In the electronic system, a single identification number is used, the Parcel Identification Number (NIB).

The differences between conventional land certificates and electronic land certificates can be seen in the document identification system, the use of signatures, and data management. In conventional certificates, the document uses a blank code in the form of a unique serial number printed on the certificate sheet, whereas electronic certificates use a hashcode automatically generated by the system to ensure the document's authenticity. Additionally, conventional certificates rely on manual signatures from authorized officials, which carry a risk of forgery, while electronic certificates use electronic signatures integrated into the digital system, thereby offering a higher level of security.

Differences are also evident in data storage systems and information access. In conventional certificates, data is stored in physical archives, making it vulnerable to document damage or loss. Conversely, electronic

certificates are stored in information technology systems equipped with digital security measures such as blockchain and cloud technology, making them safer and more integrated.

The public can access land information more easily through the Sentuh Tanahku app to determine the location and boundaries of land parcels. A number of people still have greater trust in using physical certificates, so the transition to an electronic system requires adjustments to public habits and legal culture.

Conventional land certificates featuring a globe and those featuring the Garuda bird also differ. Certificates issued before 1997 generally still use a cover design featuring a globe. The government, through the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency, has urged the public who hold such certificates to check with their local Land Office. This is because many old certificates are not yet equipped with cadastral maps or are not clearly listed in the land parcel mapping system.

The Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency, Nusron Wahid, stated that there are still approximately 13.8 million land certificates in this condition, yet many people remain unaware of the importance of updating their data. This situation arose because, prior to the implementation of Government Regulation No. 24 of 1997 on Land Registration, the land registration process did not require the complete delineation of land parcels on cadastral maps.²²

As a result, many land parcels fall into the KW 4, KW 5, and KW 6 categories—that is, land parcels that have not been clearly mapped or validated within the land mapping system. If this situation is left

²² Kementerian ATR/ Kepala BPN, "Segera Update Sertipikat Tanahmu, Jika Terbitan Tahun 1961-1997," Kementerian ATR/ Kepala BPN, 2025, <https://www.atrbpn.go.id/infografis/segera-update-sertipikat-tanahmujika-terbitan-tahun-1961-1997>.

unaddressed, it could lead to the risk of overlapping land boundaries or land disputes in the future.²³

The process of converting conventional certificates to electronic certificates is as follows:

1. Conventional Land Certificates (Physical Documents)

The process begins with the land certificate in physical form being submitted by the land rights holder.

2. Verification and Validation of Physical Documents (Pre-Su-el and Pre-Bt-el)

Inspection of land documents such as land certificates, land registers, and survey documents to ensure the authenticity and completeness of the data prior to digitization.

3. Data Consistency Check

Verification of the consistency between physical data (location, area, land boundaries) and legal data (landholder, type of right, and land status).

4. Determination of Data Verification Results

If the data matches, the process can proceed directly to the next stage. If the data does not match, clarification or data adjustment is performed, which in some cases may involve re-surveying the land parcel.

5. Data Correction

If discrepancies are found, the data is corrected first to align with actual conditions.

6. Data Entry into the Electronic System

Verified physical and legal land data that has been confirmed as consistent is then entered into the electronic system as part of the land administration digitization process.

7. Issuance of Electronic Land Certificates

²³ Kompas.com, "Kenapa Sertifikat KW 4, 5, Dan 6 Harus Diubah Ke Elektronik?," 2025, <https://www.kompas.com/properti/read/2025/03/21/131453621/kenapa-sertifikat-kw-4-5-dan-6-harus-diubah-ke-elektronik>.

Once the data is stored in the system, an electronic land certificate is issued, equipped with a QR code, hash code, and electronic signature as a form of digital document security.

8. Electronic Land Certificate

The process concludes with the issuance of the land certificate in the form of an electronic document that holds legal force as evidence of land rights.

Sources: Data processed by the researchers

Based on the research findings, the rollout of the electronic land certificate system continues to encounter various challenges throughout the transition phase. One common challenge is the discrepancy between the data in the physical documents held by the public and the data recorded in the land registry, which results in a longer verification process. Additionally, some members of the public are still accustomed to using physical certificate books, so they need time to adapt to the digital system. Technical challenges may also arise, such as system disruptions or difficulties accessing the application to view electronic certificate documents, which can make it difficult for rights holders to access their land documents.

If any data is found to be incorrect during the transition process, it must be corrected by following these steps:

1. Verification and Validation of Physical Documents

Inspection of land documents such as certificates, land registers, and survey documents to ensure the completeness and validity of the data.

2. Data Consistency Check

Physical data (location, area, and land boundaries) as well as legal data (land rights holders and land status) are checked to ensure consistency with the data in the land records.

3. Data Correction

If inconsistencies are found, data corrections are made. Re-surveying may be conducted, particularly regarding land parcel boundaries.

4. Data Corrected and Declared Valid

Once the correction process is complete and the data is consistent, it is declared valid for further processing.

5. Recording in the System

The validated data is then recorded and entered into the electronic system as part of the digitization of land administration.

Sources: Data processed by the researchers

Re-surveys or re-inspections, along with the involvement of landowners in the clarification process, are crucial to ensuring that the data recorded in the electronic system accurately reflects the actual conditions. These re-surveys are attended by land surveyors or relevant parties, land office staff, and the Village Head. The land administration system serves not only as a tool for data recording but also as a means to provide more effective legal protection and a responsive solution to the issues faced by the community regarding land rights.

The existence of a mechanism for verifying and correcting data in the event of discrepancies during the transfer of land certificates to the electronic system demonstrates that the administration of land affairs is not merely focused on the formal application of regulations but also prioritizes the protection of the interests of the community as land rights holders.

1. The Importance of Legal Certainty for Land Rights Holders in the Transition from Conventional Land Certificates to Electronic Land Certificates

TABLE 1. The Importance of Legal Certainty in the Transfer of Land Title Certificates

Subject/Elements of Legal Certainty	Land Office Authorities & Property Owners	Analysis of Gustav Radbruch's Theory
Land Data Validation	The owner submits a validation request, and the Land Office verifies the data in the physical land registry against the digital system.	Ensuring consistency between physical and digital data to improve the accuracy of land records, prevent administrative errors, and avoid overlapping ownership claims.

Land Survey Re-measurement	The Land Office conducted a re-survey on-site, involving the landowner, witnesses, and village officials.	Providing certainty regarding the boundaries, location, and area of the land, and reducing the potential for disputes.
Transition of Certificates to an Electronic System	Conventional certificates are being transferred to an electronic system via the digital land administration system.	Ensuring that land ownership is recorded in an official, orderly, transparent, and integrated manner.
Land Data Storage	Land data is stored in a centralized electronic database.	Ensuring the security, accessibility, and sustainability of land ownership data.
Access to Information and Verification	The public can check the status of their land through the Sentuh Tanahku app and the Bhumi ATR/BPN website.	To enhance transparency and make it easier for the public to obtain certainty regarding the legal status of land.
Legal Certainty Regarding Land Rights (Subject, Object, and Rights)	The transfer of certificates must ensure clarity regarding the subject, object, and type of land rights.	Ensuring clarity of ownership, simplifying data verification, and minimizing disputes.

Sources: Data processed by the researchers

Legal certainty regarding land ownership is crucial because land is an object of rights that must be protected by law. Land ownership must be supported by valid proof of ownership so that its legal status is clear and does not give rise to disputes. Land certificates serve as both evidence of rights and a means of ensuring orderly land administration.

Legal certainty is one of the fundamental goals of legal administration, serving to provide clarity regarding the rights and obligations of every individual in social life. Legal certainty regarding land rights holds significant importance because it is directly related to the ownership, control, and utilization of land, which possesses economic, social, and legal value for society.

Gustav Radbruch explains that legal certainty is a crucial element in maintaining social order and ensuring consistent enforcement of the law. Legal certainty means that legal rules must be clearly formulated,

consistently applied, and predictable so that the public knows their rights and obligations. However, Radbruch also emphasizes that legal certainty must not override justice; thus, if a law is demonstrably unjust, it must be subject to criticism. In the end, the law should be capable of ensuring certainty, delivering justice, and offering benefits to society.²⁴

Land, as a limited resource, often becomes the subject of disputes when there are no clear regulations regarding ownership status and land boundaries. Through agrarian law, the state has an obligation to ensure legal certainty for every land rights holder so that their rights are recognized and protected by the state.

The concept of legal certainty in agrarian law can be understood through the theory of legal certainty proposed by Gustav Radbruch. Radbruch states that law has three fundamental values: legal certainty, justice, and utility. Legal certainty emphasizes the importance of clear, unambiguous, and predictable legal rules so that the public can know their rights and obligations with certainty.²⁵ Legal certainty regarding land rights relates to the guarantee that a person's land ownership is legally recognized by the state and protected by law.²⁶

The urgency of legal certainty in land ownership is also reflected in the provisions of Article 19 of Law No. 5 of 1960 on the Basic Provisions of Agrarian Law (UUPA), which states:

"To ensure legal certainty, the Government shall conduct land registration throughout the territory of the Republic of Indonesia in accordance with the provisions set forth in Government Regulations."

²⁴ Mohammad Wangsit Supriyadi et al., "Pokok Pikiran Dan Sumbangsih Fundamental Gustav Radbruch Terhadap Perkembangan Ilmu Dan Hukum," *Quantum Juris: Jurnal Hukum Modern* 07, no. 1 (2025): 395–413, <https://journalversa.com/s/index.php/jhm/article/view/840>.

²⁵ Dino Rizka Afdhali and Taufiqurrohman Syahuri, "Idealitas Penegakkan Hukum Ditinjau Dari Perspektif Teori Tujuan Hukum," *Collegium Studiosum Journal* 6, no. 2 (2023): 555–61, <http://ejournal.stih-awanglong.ac.id/index.php/csj/article/view/1078>.

²⁶ Supriyadi et al., "Pokok Pikiran Dan Sumbangsih Fundamental Gustav Radbruch Terhadap Perkembangan Ilmu Dan Hukum."

This provision affirms that the government carries out land registration across the entire territory of the Republic of Indonesia in order to guarantee legal certainty for holders of land rights. Land registration is an administrative process carried out by the state to record physical and legal data regarding a parcel of land so that it is clearly known who the owner of the land is, where the land is located, and what type of rights are attached to the land.²⁷

The provisions regarding land registration are further elaborated in Government Regulation No. 24 of 1997 on Land Registration. Article 32(1) states:

“A certificate is a document evidencing rights that serves as strong evidence regarding the physical and legal data contained therein, provided that such physical and legal data correspond to the data contained in the survey document and the relevant land rights register.”

This regulation states that a certificate is a document evidencing rights that serves as strong proof regarding the physical and legal data contained therein, provided that such data corresponds to the data contained in the relevant land register and survey document. A land certificate thus plays a crucial role as a legal instrument of ownership that provides legal certainty for the holder of land rights.²⁸

In the conventional land administration system, land certificates are issued in the form of physical documents held by the land rights holders. This system has been in use for a considerable period and has served as the foundation for proving land ownership in Indonesia. However, with the advancement of information technology and the growing need for faster and more efficient public services, the conventional land administration system has begun to face various limitations.

²⁷ Pemerintah Republik Indonesia, “Undang-Undang Republik Indonesia Nomor 5 Tahun 1960 Tentang Peraturan Dasar Pokok-Pokok Agraria” (1960), <https://peraturan.bpk.go.id/Details/51310/uu-no-5-tahun-1960>.

²⁸ Pemerintah Republik Indonesia, “Peraturan Pemerintah Nomor 24 Tahun 1997 Tentang Pendaftaran Tanah” (1997), <https://peraturan.bpk.go.id/Details/56273/pp-no-24-tahun-1997>.

One of the problems that often arises in the conventional system is the risk of damage to or loss of land title documents. Physical documents kept by landowners can be damaged due to environmental factors such as fire, flooding, or negligence in storage. In addition, physical documents are also vulnerable to forgery or manipulation, which can lead to land disputes in the future

Another common issue in conventional land administration systems is the difficulty of managing land data in an integrated manner. Land data that is still stored in physical archives slows down the data retrieval process and makes it less efficient. This can complicate the data verification process when transactions occur or changes in land rights status take place.

Developments in information technology have driven the government to modernize land administration by introducing an electronic land certificate system. This policy forms part of the digital transformation of public services, intended to improve efficiency, transparency, and accountability in the management of land data.

Documents in electronic form utilized within the electronic land certificate system also carry legal validity and binding force. This aligns with the provisions of Article 5(1) of Law No. 1 of 2024 on the Second Amendment to Law No. 11 of 2008 on Electronic Information and Transactions, which states:²⁹

“Electronic Information and/or Electronic Documents and/or their printed outputs constitute valid legal evidence.”

Electronic land certificates can serve as proof of land ownership and hold the same legal validity as physical certificates, as long as they are issued in compliance with applicable laws and regulations.

The implementation of electronic land certificates in Indonesia is governed by Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 3 of 2023 on the Issuance

²⁹ Pemerintah Republik Indonesia, “Undang-Undang Nomor 1 Tahun 2024 Tentang Perubahan Kedua Atas Undang-Undang Nomor 11 Tahun 2008 Informasi Dan Transaksi Elektronik” (2024).

of Electronic Documents in Land Registration Activities. This regulation establishes the legal framework for issuing land documents in digital form, including electronic land certificates.

One of the legal bases for implementing this system is Article 2 of the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities.:³⁰

“(1) Land registration is conducted by the Ministry.

(2) Land registration as referred to in paragraph (1)

may utilize information and communication technology.

(3) The application of information and communication technology in land registration activities as referred to in

paragraph (2) is carried out through an Electronic System.”

This regulation stipulates that land documents, including land certificates, may be issued in electronic form and stored in an electronic system managed by the Ministry of Agrarian Affairs and Spatial Planning/Head of the National Land Agency. Land administration processes have become more modern and integrated, while simultaneously providing legal certainty regarding the validity of land documents issued electronically.

Based on research at the Semarang City Land Office, the shift from conventional to electronic land certificates is implemented progressively through the digitization of land documents. In this process, verification and validation are performed on the physical and legal data contained in conventional land certificates before the data is entered into the electronic system.

³⁰ Peraturan Menteri ATR/BPN, “Peraturan Menteri ATR/ Kepala BPN RI No. 3 Tahun 2023 Tentang Penerbitan Dokumen Elektronik Dalam Kegiatan Pendaftaran Tanah” (2023), <https://peraturan.bpk.go.id/Details/269663/permen-atrkepala-bpn-no-3-tahun-2023>.

This verification process is essential to ensure that the data entered into the electronic system truly corresponds to the actual conditions in the field. If any discrepancies are found between the data in the documents and the conditions on the ground, clarifications or re-surveys of the land parcels are conducted to ensure data accuracy.

Through this verification process, the transition from conventional land certificates to electronic land certificates actually strengthens the legal certainty of land ownership. This is because the digitization of land data is carried out through a more systematic and integrated examination.

Additionally, the electronic land certificate system enables the integration of land data with geographic information systems utilizing digital mapping technology. Through this technology, the location and boundaries of land parcels can be mapped more accurately, thereby minimizing the potential for overlapping land ownership.

The urgency of legal certainty in the transition to electronic land certificates is also linked to legal protection for the public as holders of land rights. Legal certainty guarantees that the land rights held by an individual are recognized and protected by the state, ensuring they cannot be challenged by others without a valid legal basis.

With the electronic land certificate system, land data management becomes more transparent and easily accessible. The public can obtain information regarding the status of land parcels more quickly through the digital system provided by land administration agencies.

Legal certainty in the shift from conventional to electronic land certificates is a crucial aspect of Indonesia's land administration system. This transition aims not only to enhance the efficiency of public services but also to strengthen legal certainty regarding land ownership through more modern, accurate, and integrated data management.

2. Legal Certainty for Land Rights Holders in the Transition from Conventional Land Certificates to Electronic Land Certificates

TABLE 2. Legal Certainty in the Transfer of Land Title Certificates

Subject	Land Office Authorities & Property Owners	Analysis of Nonet and Selznick's Theory
Legal basis	a. a. Law No. 5 of 1960 on the Basic Provisions of Agrarian Law b. b. Government Regulation No. 24 of 1997 on Land Registration c. c. Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 3 of 2023 on the Issuance of Electronic Documents in Land Registration Activities	Demonstrating a structured legal system as the foundation for the modernization of technology-based land administration services.
Land Data Validation	The owner submits a validation request, and the Land Office compares the physical land registry with the digital data.	The government has the authority to determine the validity of data; validation procedures are clear; and digitization enhances accuracy and legal protection.
Land Survey Re-measurement	A re-measurement was conducted on-site with the participation of the property owner, witnesses, and the village head.	Engaging the community to prevent disputes.
Transition of Certificates to an Electronic System	Conventional certificates are being transferred to an electronic system via the digital land registry system.	The government's policy on land digitization clearly outlines the transfer procedures, thereby improving services and legal protection.
Land Data Storage	Land data is stored in a centralized electronic database.	Government control over land data. Systematic data management. Enhancing security and preventing document forgery.
Access to Information and Data Verification	Checking data via the Sentuh Tanahku app and the Bhumi ATR/BPN website.	The government regulates data access, establishes clear mechanisms for providing information, and enhances transparency and public access.

Legal certainty regarding land rights (subject, object, and rights)	The transfer process ensures clarity regarding the subject, object, and type of land rights	Government authorities validate ownership data; verification is conducted in accordance with legal procedures; digitization simplifies verification and enhances legal certainty.
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Sources: Data processed by the researchers

Legal certainty for land rights holders within the electronic land certificate system constitutes an essential element of the modernization of land administration in Indonesia. The adoption of digital technology in land registration is intended not only to enhance the efficiency of public services but also to reinforce legal protection for individuals as holders of land rights.

Under Indonesian law, the validity of electronic documents as legal evidence has been legally recognized through Law No. 11 of 2008 on Electronic Information and Transactions, which was subsequently amended by Law No. 1 of 2024. Article 5(1) of that law states that electronic information and/or electronic documents constitute valid legal evidence.

This provision establishes a legal foundation that electronic land documents carry the same legal force as their physical counterparts. Accordingly, electronic land certificates continue to be recognized as valid proof of land ownership rights.

Legal certainty within the electronic land certificate system is further strengthened through the use of digital security technologies such as electronic signatures, unique document identification codes, and integrated digital data storage systems. Electronic signatures serve to verify the authenticity of the document and ensure that it was issued by an authorized official.

In practice, each electronic land certificate is equipped with a unique identification code or QR code that can be used to verify the document's authenticity through an electronic system managed by the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency. This system allows the public and interested parties to verify the document's validity more easily and quickly.

Research findings at the Semarang City Land Office indicate that the implementation of the electronic land certificate system also involves a comprehensive verification and validation process of land data prior to the issuance of the electronic certificate. This process includes reviewing land ownership documents, matching physical and legal data, and re-surveying the land parcel if necessary.

These measures are implemented to ensure that the data recorded in the electronic system is accurate and can be legally justified. Electronic land certificates serve not only as a means of digitizing land documents but also as a mechanism to strengthen the order of land administration.

The implementation of the electronic land certificate system aligns with Nonet and Selznick's theory on legal development, which comprises three main characteristics: repressive law, autonomous law, and responsive law. These three characteristics can be used to understand how legal systems adapt to technological advancements and societal needs.

According to Nonet and Selznick, the development of law can be viewed through three main types: repressive law, autonomous law, and responsive law. Repressive law occurs when the law is under the control of political power and serves primarily to uphold government authority rather than protect the rights of the people, so that the legitimacy of the law depends largely on coercion.³¹

Autonomous law marks the stage where the law begins to operate independently of political influence, emphasizing written rules, clear procedures, and legal certainty through professional and independent institutions. Responsive law represents a more advanced stage, as the law is not only oriented toward formal certainty but also addresses public needs,

³¹ Phillippe Nonet and Philip Selznick, *Law and Society in Transition: Toward Responsive Law* (Routledge, 2017).

social values, and substantive justice through public participation, transparency, and accountability in the administration of the law.³²

Repressive law is evident in the state's authority, exercised through the Land Office, to regulate and manage the land registration system. The state possesses the authority to determine administrative procedures and establish standards for the issuance of electronic land certificates.

Autonomy is evident in the existence of a land administration system governed by clear and structured laws and regulations. The processes of land registration and the issuance of electronic land certificates are conducted in line with prevailing legal regulations, thereby guaranteeing legal certainty throughout the procedure.

Responsive law is evident in the government's efforts to leverage digital technology to enhance the quality of land administration services. The digitization of land administration is the state's response to the public's need for faster, more transparent, and more efficient public services.

The electronic land certificate system makes land data management more integrated and transparent. This system enables the government to manage land data on a national scale, thereby facilitating oversight and control over land use.

Land data within the electronic system is also recorded in an integrated digital system. This system enables the search, verification, and management of land data to be conducted more quickly and in a structured manner. The electronic land certificate system is also linked to population data managed by the Population and Civil Registration Office (Dukcapil), allowing the identity of landowners to be verified through the National Identity Number (NIK) entered into the system. This aligns with the goals of **Peace, Justice, and Strong Institutions**, as it enhances transparency, legal certainty, and accountability in land administration.

The digital system also makes it easier for the public to access information regarding land ownership status. Through various available

³² Nonet and Selznick.

land administration services, the public can obtain information regarding land parcel data without having to visit the land office in person.

In essence, the implementation of electronic land certificates continues to ensure legal certainty for land rights holders. These certificates carry the same legal status as conventional ones as proof of ownership, while offering a more modern, secure, and integrated system of data management.

The digitization of land administration demonstrates the development of a legal system that adapts to technological advancements while maintaining the principles of legal certainty and the protection of the rights of the public as land rights holders.

Conclusion

Legal certainty for land rights holders during the transition from conventional to electronic land certificates remains assured, as both possess the same status and function as proof of rights, supported by clear legal data, physical data, and land rights status, and reinforced by technologies such as electronic signatures, unique codes, and integrated storage systems that enhance security and efficiency. This aligns with Gustav Radbruch's theory of legal certainty, as the system reflects clear, consistent, and predictable law, while also upholding justice and the public interest.

The practice of transitioning conventional land certificates to electronic ones through the stages of verification, validation, and data digitization improves efficiency and transparency, although technical challenges and public adaptation remain. Based on the theories of Nonet and Selznick, this indicates a shift toward responsive law, as the legal system is capable of adapting to technological advancements and societal needs to strengthen public services and legal certainty. This aligns with the goals of **Peace, Justice, and Strong Institutions**, as it reflects the development of a more adaptive, transparent, and accountable legal system.

Suggestion

The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) and the Semarang City Land Office need to continue raising public awareness regarding the implementation of electronic land certificates and strengthen their information technology systems so that digital land services can operate optimally, securely, and be easily accessible.

The public is encouraged to deepen their understanding of the digital land administration system and ensure that land ownership data and documents are accurately recorded in the land registry system, thereby supporting orderly administration and preventing land disputes.

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