

Legal Politics Electronic Land Certificate in Indonesia

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Abstract

In accordance with National Land Agency Regulation No. 1 of 2021, this study investigates the adoption of electronic land certificates. The need to enhance land services in Indonesia, especially in the fight against the land mafia and the settlement of intricate agrarian disputes, is what makes this research so urgent. Creating an electronic certificate system is essential to updating public services in light of the rise in fraud and land ownership disputes. Significant obstacles stand in the way of digital transformation in land management, nevertheless, such as the requirement for a strong legal framework and prepared infrastructure. The novel aspect of the study is its evaluation of infrastructure preparedness for electronic certificates, a topic that has received little attention in earlier studies. The responsive law theory of Philippe Nonet and Philip Selznick is used in this analysis to emphasize how crucial adaptable legal frameworks are for addressing societal shifts. The results indicate that increasing digital infrastructure and raising public understanding of land technology are essential to the success of electronic land certificates. This invention has the potential to improve confidence in the National Land Agency and expedite the settlement of land disputes. According to Indonesian law, both paper and electronic documents are legitimate; nevertheless, for long-term use, rules pertaining to data security, technology, and public education need to be strengthened. The digital revolution of land administration requires cross-sector cooperation.

Keywords: *Digital Services; Electronic Land Certificates; Legal Politics*

1. INTRODUCTION

The land is a vital resource that underpins various aspects of society, serving as a space for habitation, agricultural land, and a crucial asset in industrial activities. As a result, legal clarity surrounding land ownership and use is crucial for the advancement of the country. The necessity of national land registration to maintain legal certainty is highlighted in Law No. 5 of 1960 on Basic Agrarian Principles (UUPA), Article 19, paragraph (1). Government Regulation No. 24 of 1997 on Land Registration, which was created to preserve landholders' rights and fortify the legal foundation for land management, carries out this clause.¹

However, agrarian issues such as land disputes, unclear ownership, and land mafia practices are still prevalent in Indonesia. These problems not only harm the public but also erode trust in institutions responsible for land management, such as the National Land Agency (BPN).² In 2020 alone, there were 359 agrarian cases, with 241 occurring in rural areas, affecting over 135,000 households.³ This underscores the urgency of effective reforms in land services to provide long-term solutions to these issues.

¹ Ali Achmad Chomzah, *Hukum Agraria (Pertanahan) Indonesia Jilid 1* (Jakarta: Prestasi Pustaka, 2003).

² Ilyas Ismail, "Sertifikat Sebagai Alat Bukti Hak Atas Tanah Dalam Proses Peradilan," *Kanun: Jurnal Ilmu Hukum* 8, no. 53 (2011): 23–34.

³ Sepanjang 2020 Konflik Agraria 241 Kasus, Tertinggi Sektor Perkebunan", *Kompas.com*, 6 Januari 2021

Despite efforts to reform land certification services in Indonesia, the outcomes have yet to meet public expectations.⁴ Complex procedures, slow bureaucratic processes, and a lack of transparency have worsened the situation, further diminishing public trust in government institutions responsible for agrarian affairs. According to Sumardjono, a comprehensive overhaul of the land registration and certification system is essential to resolve agrarian issues.⁵ The adoption of modern technology, such as electronic land certificates, is expected to provide an innovative solution for improving efficiency and transparency in land services.

Electronic land registration systems have replaced paper-based ones due to technological developments. Information and communication technology has transformed the manual market and public service transactions into electronic services in Indonesia. Electronic fiduciary registration, online single submission (OSS), e-commerce, e-government, e-court, e-KTP, e-filing, e-SPT, e-Billing, and E-money are a few examples. These services have been put into place to improve accountability, transparency, and efficiency in both the public and private sectors.⁶

The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) released Regulation No. 1 of 2021 on electronic land certificates in response to the difficulties posed by digitization. This strategy is a component of a larger initiative to digitalize the land sector, with the goal of improving land services' accountability, efficiency, and transparency. Furthermore, it is anticipated that the issuance of electronic land certificates will stop land mafia activities and speed up the settlement of agricultural disputes. However, in practice, digital land certification remains a developing issue, particularly concerning data storage security, system reliability, and the process of withdrawing analog certificates by landowners. This program seeks to streamline bureaucracy in land certificate management through advancements in information technology, aiming to prevent collusion, corruption, and duplication of certificates.⁷

However, there are a number of obstacles to Indonesia's use of electronic land certificates. *First*, the uneven distribution of digital infrastructure is a major obstacle. In some areas, especially remote regions, access to the internet and other supporting technologies remains limited. This hinders the public's ability to utilize digital services such as electronic land certificates. *Second*, society's readiness to adopt digital services is also a critical issue. Not everyone, particularly older generations or those living in rural areas,

⁴ Fazira Fazira and Afriva Khaidir, "Efektivitas Implementasi Kebijakan Pendaftaran Tanah Sistematis Lengkap (PTSL) Di Badan Pertanahan Nasional (BPN) Kabupaten Pasaman," *Jurnal Pendidikan Tambusai* 6, no. 2 (2022): 16720–26. <https://doi.org/10.31004/jptam.v6i2.5088>.

⁵ Maria S Sumardjono, *Kebijakan Pertanahan: Antara Regulasi Dan Implementasi* (Penerbit Buku Kompas, 2006).

⁶ Dian Aries Mujiburohman, "Transformasi Dari Kertas Ke Elektronik: Telaah Yuridis Dan Teknis Sertipikat Tanah Elektronik," *Bhumi: Jurnal Agraria Dan Pertanahan* 7, no. 1 (2021): 57–67, <https://doi.org/10.31292/bhumi.v7i1.472>.

⁷ Kusmiarto Kusmiarto et al., "Digital Transformation of Land Services in Indonesia: A Readiness Assessment," *Land* 10, no. 2 (2021): 120. <https://doi.org/10.3390/land10020120>.

possesses the understanding and ability to access technology-based services. Low digital literacy levels result in resistance to transitioning from manual to electronic systems.⁸

Additionally, concerns over data protection are prevalent. The electronic land certificate system stores crucial and sensitive information that must be safeguarded. Many parties worry about the potential for data breaches or misuse of personal information, especially in situations where the digital system has not yet proven entirely secure. Another challenge is the reliability of the electronic system itself. As new technology is implemented, concerns arise over how the system will function in the long term. Technical issues such as system disruptions, cybersecurity threats, and potential downtime could undermine public trust in electronic certificates.⁹ There are also legal issues that cannot be overlooked. The transition from physical certificates to electronic certificates raises various legal questions, such as the legal status of physical certificates once electronic ones are issued, and how legal mechanisms will handle land disputes involving both types of certificates.

The pressing need to assess whether the legal framework and infrastructure are prepared to allow the use of electronic land certificates is what spurred this research. In addition to cutting-edge technology, digital transformation in the land sector necessitates a strong and flexible legal framework. Little research has been done up to this point to thoroughly analyze how prepared the infrastructure is for the use of electronic land certificates and how that will affect the defense of people's rights. Moreover, the policy of electronic land certificates can be assessed through the lens of responsive law theory, as proposed by Philippe Nonet and Philip Selznick.¹⁰ This article research highlights how important it is for laws to adapt to community demands as well as social and technical advancements. In light of this, the policy governing electronic land certificates needs to be flexible enough to enable digital innovation in public services while still meeting the public's need for legal certainty. As a result, the goal of this study is to present a thorough examination of the legal framework governing the use of electronic land certificates, especially in light of the social issues and preparedness of digital infrastructure. With a focus on social concerns and the readiness of digital infrastructure, this article research seeks to do a thorough examination of the legislative framework pertaining to the usage of electronic land certificates. The goal of this analysis is to aid in the creation of inclusive and sustainable policies for the digital era.

⁸ Jacek Golaczynski and Maria Kaczorowska, "Interconnecting Land Registers at the European Level: Technological Progress and Harmonization Aspects," *Rev. Eur. & Comp. L.* 55 (2023): 29. <https://doi.org/10.31743/recl.16593>.

⁹ Damianus Krismantoro, "The Urgency of Electronic Land Certificates in the Land Registration Legal System in Indonesia," *Journal of Law and Sustainable Development* 11 (October 2023): e1808, <https://doi.org/10.55908/sdgs.v11i10.1808>.

¹⁰ P F Blin et al., "Cybersecurity Risk-Management to Maintain Integrity Land Data Transactions: Application to Indonesian and French Land Administration Systems," *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 48 (2022): 29–31.

2. METHOD

The legislative framework for normatively issuing electronic land certificates in Indonesia is examined in this paper. The paper explores pertinent theories in information technology and agricultural law using conceptual and legislative techniques. Primary legal texts, such as Law No. 5 of 1960 covering Agrarian Law and accompanying Government Regulations, are among the types and sources of legal materials employed. Scholarly publications, journals, and papers that discuss the application of technology in land administration are examples of secondary legal resources that are also employed. Additionally used are tertiary legal resources, such as useful manuals from pertinent organizations like ATR/BPN. Researchers look at current and potential legal issues with the usage of electronic land certificates using the prescriptive analysis approach of legal analysis.¹¹ This analysis draws upon pertinent legal theories to produce specific, fact-based policy recommendations.

3. RESULTS AND DISCUSSION

3.1 Rationale for the Use of Electronic Land Certificates in the Framework of Digital Transformation to Provide Excellent Service to the Community

In All facets of daily life are made more efficient and modern in the digital age by technology. The shift to the digital age cannot be stopped. In an attempt to modernize land services, the land sector has begun implementing electronic-based land services, which has led to the creation of papers in electronic format. To formally begin the implementation of electronic land certificates, Minister of Agrarian and Spatial Planning/Head of the National Land Agency Regulation No. 1 of 2021 about Electronic Certificates was published on January 12, 2021, and signed by Minister of Agrarian Sofyan Djalil.¹²

Any information created, transmitted, received, or stored in analog, digital, electromagnetic, optical, or comparable forms is considered electronic information that may be viewed, displayed, and/or heard via a computer or electronic system. Writings, noises, pictures, maps, designs, photographs, and the like are all included in this. As are letters, signs, numbers, access codes, symbols, or perforations that have meaning or that a person with the necessary skills may understand. Here, electronic documents are known as electronic certificates or e-certificates.¹³

This electronic land certificate policy aims to modernize land services to enhance public services to the electronic-based community and business ease indicators.¹⁴ Electronic documentation will eventually be issued as a result of land registration

¹¹ Sri Mamudji, Hang Rahardjo, Agus Supriyanto, Daly Erni, Dian Pudji Simatupang, *Metode Penelitian Dan Penulisan Hukum* (Jakarta: Badan Penerbit Fakultas Hukum Universitas Indonesia, 2005).

¹² Ana Silviana, "Urgensi Sertipikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah Di Indonesia," *Administrative Law and Governance Journal* 4, no. 1 (2021): 51–68. <https://doi.org/10.14710/alj.v4i1.51-%2068>.

¹³ Nur Hidayani Alimuddin, "Implementasi Sertifikat Elektronik Sebagai Jaminan Kepastian Hukum Kepemilikan Hak Atas Tanah Di Indonesia," *Sasi* 27, no. 3 (2021): 335, <https://doi.org/10.47268/sasi.v27i3.509>.

¹⁴ Andriana Rachmah, Benny Djaja, and Maman Sudirman, "Implementation Of Electronic Land Certificates As Legal Land Ownership," *Policy, Law, Notary And Regulatory Issues* 3, no. 1 (2024): 1–8. <https://doi.org/10.55047/polri.v3i3>.

procedures. Any electronic information that can be seen, displayed, and/or heard through a computer or electronic system is referred to as an electronic document. This includes, but is not limited to, writings, sounds, images, design maps, photographs, or the like, letters, signs, numbers, access codes, symbols, or perforations that have meaning or can be understood by people who can understand.¹⁵

Land parcels that have already been registered or will soon be registered will be directly impacted by the implementation of this law. An e-certificate is produced upon registration of land using an electronic system, regardless of whether it has been designated as waqf land, land rights, management rights, ownership rights over apartment units, or mortgage rights. As proof of ownership, the right holder/nazir is then provided with an electronic certificate and granted access to the certificate on the electronic system. There are, however, some exceptions to this, such as in cases where the legal or physical evidence is insufficient or contested. If the physical and legal information in the land book and certificate match the physical and legal information in the electronic system, it is possible to replace the certificate for already-registered land with an e-title by applying for a land registration data maintenance service.¹⁶

On the one hand, the introduction of electronic land registration will, in theory, result in less in-person meetings between service providers and consumers and more efficiency at the input, process, and output nodes. This is a good way to lessen the impact of the epidemic in addition to trying to keep land transaction costs as low as possible. In order to reduce the likelihood of bias, forgery, and duplication that could be utilized for illegal activities, all aspects of land registration should be recorded electronically. This would give legal clarity and safeguard holders of electronic land certificates.

The idea behind electronic certificates is that they serve as a tool for safeguarding and ensuring land tenure security. By leveraging technical advancements, land registration enhances the personal bond between Indonesians and their land. Concurrent with the adoption of land registration, the following regulations are applicable: ATR/KBPN Regulation Number 1 of 2021 regarding Electronic Certificates and Regulation of the Minister of Agrarian Affairs/Head of the National Land Agency Number 3 of 1997 regarding Provisions for the Implementation of Government Regulation Number 24 of 1997 concerning Land Registration. This is because: a). Physical and legal land data for every land parcel are not fully available due to the incomplete implementation of land registration in all regions of Indonesia; b). Gradual implementation; c). in keeping with the remarkably varied geographic and socioeconomic circumstances of the group, which are still plural. Consequently, the paper emphasizes the significance of land registration management that takes into account the availability of precise data, implementation throughout time, and

¹⁵ Silviana, "Urgensi Sertipikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah Di Indonesia."

¹⁶ Alimuddin, "Implementasi Sertifikat Elektronik Sebagai Jaminan Kepastian Hukum Kepemilikan Hak Atas Tanah Di Indonesia."

adaptation to the various geographic and socioeconomic circumstances present in Indonesian society.

Conventional land certificates, which can also serve as legitimate legal proof of land ownership, remain functional in conjunction with this computerized version. The position of conventional and electronic certificates is the same. According to Government Regulation No. 18 of 2021 about Residential Units, Land Rights, Management Rights, and Land Registration, this is the case. The provisions of Article 142 and Article 185 letter b of Law No. 11 of 2020 on Job Creation are followed by this government regulation. According to Article 84 of Government Regulation Number 18 of 2021 concerning Management Rights, Land Rights, Flat Housing Units, and Land Registration, electronic data and information, along with their printouts as stated in paragraph (3), are an extension of legal evidence in accordance with the applicable Indonesian procedural law. The final results of the planning and implementation of the electronic land registration system outlined in paragraph (1) are data, electronic information, and/or electronic documents.

Sociologically speaking, the availability of electronic land certificates will be able to lower the quantity of land-related disputes, conflicts, and court cases. This is because electronic land certificates lead to information transparency, which in turn reduces the amount of misinformation-related disputes, conflicts, and court cases.¹⁷ The public's access to land management information may be enhanced by the use of electronic land services. The ability to benefit the landowner community through ease and benefits, as well as raising public digital literacy through land registration's electronicization, is the sociological underpinning for electronic land certificates.

According to information provided by the National Land Agency (BPN), Indonesia had 8,959 land cases in 2019. Some of these cases are finished, while others are only getting started. The number of cases filed with the Supreme Court (MA) in the land sector has increased significantly since 2012, when there were only 7,196 cases in total. As a result, the percentage of total cases handled each year in the land sector has been steadily rising, ranging from 65% to 70%.¹⁸ It was reported that there were 241 instances of agrarian conflict in 2020. 135,332 families were the victims of the 359 regions where the instances were totaled.¹⁹

Land certificates are essentially given out on printed paper. To prevent certificate counterfeiting, the certificate has a hologram attached to the BPN logo. It seems that digitalization is forcing people to live in a more modern way, even when it comes to land in this case, land certificates. Land certificates are currently going through a digitalization process as well; in this process, paper certificates are being developed with the goal of

¹⁷ Bichaye Tesfaye et al., "Rethinking the Impact of Land Certification on Tenure Security, Land Disputes, Land Management, and Agricultural Production: Insights from South Wello, Ethiopia," *Land* 12, no. 9 (2023): 1713. <https://doi.org/10.3390/land12091713>.

¹⁸ Leonardo Refialy, Eko Sedyono, and Adi Setiawan, "Pengamanan Sertifikat Tanah Digital Menggunakan Digital Signature SHA-512 Dan RSA," *Jurnal Teknik Informatika Dan Sistem Informasi* 1, no. 3 (2015): 229–34, <https://doi.org/10.28932/jutisi.v1i3.400>.

¹⁹ Sepanjang 2020 Konflik Agraria 241 Kasus, Tertinggi Sektor Perkebunan", *Kompas.com*, 6 Januari 2021

becoming digital certificates. On digital certificates, however, it is quite simple to replicate the procedure. Since it is simple to manipulate digital data, it is imperative to provide a way to verify that a digital certificate is unchanged from its original form.²⁰

According to the BPN explanation, this electronic land certificate will also raise the importance of property registration, which will raise the ranking for ease of doing business. The value of land management in the EoDB will rise with paperless land management. Because of the convenience and advantages offered, as well as the possibility to increase public digital literacy through land registration's electrification, this might also benefit the community of landowners.

There are 22 articles and 7 chapters in Permen ATR/Head of BPN Number 1 of 2021 about electronic certificates. This regulation's Article 2 states that: (1) Land registration may be implemented electronically. (2) First-time land registration and data maintenance are two aspects of the electronic land registration implementation mentioned in paragraph (1). (3) An electronic system is used to organize land registration, as mentioned in paragraph (2). (4) The Minister sets the phases for the adoption of electronic land registration.

According to the above-mentioned Permen ATR/Head of BPN Number 1 of 2021, Article 2, Paragraph 4, requires that the implementation of electronic certificates be done gradually (a Ministerial Decree will be produced), taking public awareness, infrastructure, and facility readiness into consideration. (1) The implementation of the Electronic System, as mentioned in Article 2 paragraph (3), is carried out reliably, safely, and responsibly for the operation of the Electronic System, according to Article 4 of Permen ATR/Head of BPN Number 1 of 2021. (2) The following are included in the Electronic System's implementation for land registration: a. Data collection; b. Data processing; and c. Presentation of data. (2) Electronic Documents are the end product of the Electronic System's implementation, as mentioned in paragraph (2). These can be one of the following: a. Electronic Documents issued through an Electronic System; b. Documents transferred into Electronic Documents. (3) Electronic Signatures are used in compliance with legal and regulatory provisions to authorize Electronic Documents published via the Electronic System mentioned in paragraph (3) letter a. (4) Electronic documents arising from the media transfer mentioned in paragraph (3) letter b are digitally stamped by an authorized official or designated official via an electronic system after being validated.

It serves as a bridge for hybrid land registration activities with media transfer (digitization) into electronic documents, as stated in Article 4 paragraph (3) above. A certificate that is issued as an electronic document via an electronic system is known as an electronic certificate. According to Article 6 of Permen ATR/Head of BPN Number 1 of 2021, the first land registration process for unregistered land or the replacement of certificates with electronic certificates for previously registered land are the two methods used to issue electronic certificates for the first time.

²⁰ Sepanjang 2020 Konflik Agraria 241 Kasus, Tertinggi Sektor Perkebunan”, *Kompas.com*, 6 Januari 2021

The initial land registration activities for unregistered land, as mentioned in Article 6 letter a, include gathering and processing physical data, proving rights and bookkeeping, issuing certificates, presenting physical and juridical data, and storing public registers and documents, all of which are done via an electronic system, according to Article 7 Permen ATR / Head of BPN Number 1 of 2021. The outcomes of physical data collecting and processing activities in the form of Electronic Documents comprise the following, according to Article 8 of Permen ATR/Head of BPN Number 1 of 2021: a). Measuring Image; b). Land Parcel Map or Space Map; c). Surat Ukur, Drawing of Flat Unit Plan or Surat Ukur Ruang; and/or d). other documents, which are the result of collecting and processing physical data.

The following documents are the result of juridical data collection and research activities: a). Minutes of juridical data research and boundary determination, Minutes of Land Examination Committee A, Minutes of Land Examination Committee B, Minutes of Land Examination of Research Team, Minutes of Land Examination (Constatering Rapport); b). announcement of the list of juridical data and physical data of land parcels; c). official report on the validation of physical and juridical data; d). right determination decision; and/or e). Other documents.

According to Article 14 of Permen ATR/Head of BPN Number 1 of 2021, the following applies to the Replacement of Sertipikat to Sertipikat-el for Unregistered Land: (1) Replacement of Sertipikat into Sertipikat-el is carried out for land parcels that have been registered and issued Land Rights Certificates, ownership rights over apartment units, and management rights. (2) To implement the change mentioned in paragraph (1) from Sertipikat to Sertipikat-el, an application for land registration data maintenance services is submitted.

Article 16 of Permen ATR/Head of BPN Number 1 of 2021, on the other hand, specifies that: (1) The conversion of Sertipikat into Sertipikat-el encompasses the substitution of the flat unit's plan drawing, measurement letter, and/or land book with an electronic document. (2) The land book, measuring letter, and/or apartment unit plan drawing must all reflect the replacement of Sertipikat-el, as mentioned in paragraph (1). (3) The land office head removes the sertipikat so that it can be combined with the land book and kept in storage. (4) Every document mentioned in paragraph (3) needs to be scanned and kept in the database.

One form of legislation is the ATR/BPN Ministerial Regulation Number 1 of 2021 concerning Electronic Certificates. Ministerial regulations are recognized and have binding legal force under two conditions: they must be "formed based on authority" or "ordered by higher laws and regulations." The LoGA, its implementing regulations, and the laws pertaining to the ITE Law and the Job Creation Law are all included in the reference to the consideration (considered) of the Ministerial Regulation. Because ministers are assistants to the President and have specific powers in government, it can be claimed that the Ministerial Regulation on e-titles is based on a directive from a higher law. In the field of

land and spatial planning, government issues are overseen by the Ministry of ATR/BPN. Therefore, it can be said that the Ministry of ATR/BPN possesses attributive authority, which is the authority that has been established or complies with the guidelines mentioned in the Permen Sertipikat-el preamble and recollection.²¹

3.2 Legal Politics of the Use of Electronic Land Certificates in the Framework of Digital Transformation to Provide Excellent Services to the Community

The Minister will decide when to deploy electronic land registration in Indonesia, and it will happen gradually based on each District Land Office's infrastructure and human resource readiness.²² The initial land registration and land registry upkeep are the first steps in the process of issuing e-titles. An e-title for unregistered land is the electronic document that was issued during the initial land registration. As an alternative, individuals who want to transfer media can apply to switch from an analog to an e-certificate for land that has already been registered. Once the application is approved, the analog certificate is withdrawn, scanned, and added to the Land Office's land registration records.

The electronic land registration process consists of five steps. These phases are applicable to newly registered land as well as unregistered land. The following are the registration stages:²³ First, this covers gathering, processing, and presenting both legal and physical data for both periodic and systematic land registration. "Land maps, measurement drawings, measurement letters, flat unit plan drawings or space measurement letters, and/or other documents" must be included in the physical data presentation. After the requirements for the physical land data are met, the applicant is given an Identification Number (NIB), which they can utilize as a reference for the subsequent step or process. Article 9 Paragraph (3) of Permen ATR/BPN Number 1 of 2021 regulates the requirements for NIB registration and provision.

Second, the applicant's proof of rights is the following step. Article 10 of Permen ATR/BPN No. 1 Year 21 respecting Electronic Certificates states that proof of rights can only be established by written documentation. Evidence in this situation may take the form of legally digital papers or electronic documents provided through electronic systems.

Thirdly, the proposed evidence of rights is still in the research stage. This phase is carried out following the applicant's acquisition of a reference number as evidence of their completion of the land parcel identification process. Every document that is presented needs to be investigated; if the findings demonstrate that the documents are accurate and comprehensive, the applicant's land ownership can be determined. As stated in Permen ATR/BPN No. 1 of 2021, Article 12 Paragraph (1), the petitioner must consent for registration on the electronic system to proceed only when the land rights have been

²¹ Risti Dwi Ramasari dan Shella Aniscasary Shella, "Tinjauan Yuridis Kekuatan Hukum Sertifikat Tanah Elektronik Berdasarkan Peraturan Menteri Agraria Dan Tata Ruang Nomor 1 Tahun 2021," *Jurnal Hukum Dan Etika Kesehatan* 2, no. 1 (2022): 1–14, <https://doi.org/10.30649/jhek.v2i1.38>.

²² Trias Aditya et al., "Participatory Land Administration in Indonesia: Quality and Usability Assessment," *Land* 9, no. 3 (2020): 79. <https://doi.org/10.3390/land9030079>.

²³ Novita Riska Ratih, "Analisis Yuridis Sertifikat Tanah Hak Milik Elektronik (E-Certificate) Demi Mewujudkan Kepastian Hukum," *Jurnal Signifikan Humaniora* 2, no. 4 (2021): 1–20.

established. The issuance of an electronic certificate is the last step in this process.

Fourthly, according to Article 12 Paragraph (3) Permen ATR/BPN No. 1 of 2021, applicants or registrants who have received a determination of rights and an electronic certificate are entitled to enter the electronic system. Owners of land rights have access to electronic land certificates. The crucial point that all parties need to remember is that the land certificate cannot be sent to the applicant if one of the physical data requirements is not met, which may give rise to legal issues. The purpose of this access delay is to foresee potential issues. Rights to access can be granted if the applicant can fill up the missing data. Thus, the procedure just addresses the physical data shortcomings identified by the relevant rules and regulations rather than starting over from scratch. This highlights the caution involved in providing electronic certificates and enabling land rights holders to access information.

Maintaining general records and registers is the fifth step. This fifth phase offers the chance to produce electronic certificates for modifications made to registered land. The upkeep of land registration data requires an application from land rights holders. If it is established that the land's legal and physical criteria comply with relevant rules, changes may be processed. The land certificate and land book need to be completely updated. The applicant willingly converts conventional certificates to electronic certificates by physically visiting the land office.

The use of electronic land certificates in land registration services is a creative move on the part of the BPN to enhance the public service sector. However, in order for this noble endeavor to be widely acknowledged, there needs to be constant improvement in the way that electronic land certificates are marketed to the general public. The Land Office, as the land registration executor, should always apply the principles of thoroughness, caution, and care when collecting land registration data, as there are frequently administrative errors in the issuance of land certificates during this time. This will ensure that the documents produced truly provide a guarantee of legal certainty of land rights.²⁴

The following are some of the challenges facing the adoption of electronic land certificates:²⁵ The timely adoption of electronic certificates necessitates the availability of a legitimate database containing land parcel maps across Indonesia. the presence of an accurate land parcel map database for the whole country of Indonesia. Therefore, it will be challenging to implement electronic certificates without a thorough land map of every land parcel in Indonesia, both registered and unregistered. Realizing electronic certificates for land parcels in Indonesia both registered and unregistered will be challenging. In order to do this, the Ministry of Agrarian Affairs and Spatial Planning must first guarantee the accuracy and accessibility of data and maps showing land parcel distribution across Indonesia. The validity of land ownership data in Indonesia is not solely dependent on the

²⁴ Silviana, "Urgensi Sertipikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah Di Indonesia."

²⁵ Suci Febrianti, "Perlindungan Hukum Terhadap Pemegang Sertifikat Hak Atas Tanah Elektronik," *Indonesian Notary* 3, no. 9 (2021): 91–97, <https://scholarhub.ui.ac.id/notary/vol3/iss3/9%0AThis>.

Ministry of Agrarian Affairs and Spatial Planning, as there are links with other institutions that will also impact the validity of the land database, such as population data and civil records. Every inch of land in the country has been mapped and validated. To ensure the validity of land data, it is vital to verify the validity of population data throughout Indonesia, since the current reality demonstrates that population data in Indonesia is not yet organized and many data are out of date. The Land and Building Tax (PBB) and the Fees for Acquisition of Rights on Land and Buildings are two ways that state income will be tied to the land registration procedure, thus it is also necessary to take the legitimacy of the PBB data into account. In order for these institutions' data to be integrated without creating issues down the road, it is imperative that they verify the legitimacy of their individual data prior to implementing electronic certificates; Since certificates are a legally binding proof of ownership, there is still a need to strengthen the legal standards pertaining to electronic certificates, synchronize and harmonize laws and regulations to avoid creating new issues from the registration process to the data processing process; The Legislature has not yet fully endorsed the use of electronic certificates since efforts to acquaint different parties with them are still subpar and they continue to have concerns about their advantages and legal protection, among other things; Only urban communities and the upper middle class will find it easy to use digitalization; in rural areas, access to digitalization technology is still uneven and difficult, and some rural communities lack basic technology literacy; for this reason, community education about technology and the state of facilities and infrastructure must come first. Government-managed information technology (IT) systems, such as the Ministry of ATR/BPN and the Electronic Identity Card (e-KTP), don't seem to be totally safe. The lack of guarantees regarding security and land bureaucracy reform could lead to the loss of land ownership information and increase the risk of misuse.

The following are included in the policy of arranging electronic certificates, according to information obtained from BPN via the National Land Agency/Ministry of Agrarian Affairs and Spatial Planning/Directorate General of Rights Determination and Land Registration: 1. The Electronic System is implemented in a safe, dependable manner and is accountable for its proper functioning; 2. Data processing, data display, and data gathering are all part of the Electronic System implementation for land registration; 3. The outcomes of the Electronic System's implementation in the form of Electronic Documents, published through the Electronic System, and/or documents transferred into Electronic Documents; 4. Electronic Signatures are used to authorize Electronic Documents issued through Electronic Systems in compliance with the laws and regulations; 5. Electronic Documents arising from Media Transfer are validated by appointed or authorized officials and assigned a digital stamp through the Electronic System.

The public's faith in BPN will rise once again with transparency and accountability, which is why this policy on electronic land certificates is a significant advancement in facilitating and safeguarding community land ownership rights. Nonetheless, in keeping

with the democratic ideals we uphold, the people must come first because they hold the sovereignty.

Additionally, this electronic land issuance regulation is a very responsive piece of legislation. Referring to Philippe Nonet and Philip Selznick's idea of responsive legislation,²⁶ In an attempt to resolve this conundrum, the idea of responsive law aims to bring transparency and morality together. Nonet and Selznick put out a responsive legal paradigm in the face of several critiques of the circumstances surrounding the crisis of legal authority. Justice and social transformation necessitate a flexible legal system.²⁷ Because of this, the policy for issuing electronic land certificates is designed to adapt to the changing needs of the digital age, or era 4.0, while also upholding the principles of justice to ensure that people's rights to own property are preserved and even strengthened.

In line with the relevant Indonesian Law of Procedure, electronic documents and/or their prints are acceptable forms of legal evidence. Electronic Systems provide access to Electronic Documents for evidentiary purposes. A similar explanation of the validity of electronic certificates as proof of ownership based on Indonesian legal procedures can be found in Law Number 11 of 2008 about Electronic Information and Transactions (ITE), article 5, paragraph (2). Therefore, even though electronic certificates are in electronic form, they are incorporated in valid deeds according to rules and regulations. Electronic signatures are contained in electronic certificates. The term "signature" has two primary functions: it signifies the identity of the signer and their approval of the obligations associated with the deed. However, the Indonesian legal system has never defined the term.²⁸

Law Number 11 of 2008 concerning Electronic Information and Transactions regulates the status of electronic information and/or documents. Article 1 Number 4, Article 5 Paragraph (3), Article 6, and Article 7 state that electronic documents must meet certain formal and material requirements in order to be considered as having evidentiary value. These requirements include that the electronic documents be created, forwarded, sent, received, or stored in the form of electronic information that can be viewed, displayed, or heard through a computer or electronic system, including writing, sound, images, and other materials that have meaning or can be understood by those who can comprehend them. The second benefit is that it is deemed legitimate if it is based on or employs an electronic system in compliance with the legal requirements. The third value of evidence is that it is deemed legitimate if the data it contains is accessible, observable,

²⁶ Philippe Nonet dan Philip Selznick, *Hukum Responsif, Pilihan Di Masa Transisi* (Jakarta: Ford Foundation-HuMa, 2003), hlm. 3.

²⁷ Teja Sukmana, Zahrah Salsabillah Ashari, and Yadi Darmawan, "Responsive Law and Progressive Law: Examining the Legal Ideas of Philip Nonet, Philip Selznick, and Sadjipto Raharjo," *Peradaban Journal of Law and Society* 2, no. 1 (2023): 92–106. <https://doi.org/10.59001/pjls.v2i1.82>.

²⁸ Risti Dwi Ramasari dan Shella Aniscasary Shella, "Tinjauan Yuridis Kekuatan Hukum Sertifikat Tanah Elektronik Berdasarkan Peraturan Menteri Agraria Dan Tata Ruang Nomor 1 Tahun 2021."

certain to be accurate, and accounted for in a way that clarifies a situation.²⁹

On the other hand, analog land certificates come in printed paper with a BPN brand hologram on them. Compared to the electronic form, which has specific codes in its use, the analog form is significantly more difficult to fake and replicate.³⁰

Table 1
 Analog and Electronic Land Certificate Distinctions

The Difference	Electronic Certificate	Analog Certificate
Form of Certificate	Electronic/File	Book/Paper
Type of Information	Restriction and Responsibility: restrictions and obligations are listed.	Noted in the instructions column, the application is not uniform depending on each land office
Security	Hash Code and QR Code	Blank Code and no QR Code
Signature Form of Document	Electronics Electronic document	Manual Paper-Based
Identity Number	Single identity: using a field identification number	Using multiple numbers: title number, measurement certificate number, parcel identification number, parcel map number

Source: Ministry of ATR/BPN is the source. Table 1 elucidates the benefits of electronic certificates, which include improved security via QR and hash codes, consistency in information display, and a unique identity number for identification reasons. Analog certificates, on the other hand, are manually signed, do not have QR codes for instant verification, and the information they offer may differ depending on the land office.

By protecting a document from illegal modification, the digital signature that will be used in the electronic certificate helps to prevent duplicate procedures that could alter the digital certificate from the original. A secured document's contents are summarized, encoded using a cryptographic technique, and then the result is inserted into the document to create a digital signature.³¹ There will always be a single file including both the digital signature and the digital document. If a single character changes in electronic information

²⁹ Alimuddin, "Implementasi Sertifikat Elektronik Sebagai Jaminan Kepastian Hukum Kepemilikan Hak Atas Tanah Di Indonesia."

³⁰ Kurnia Rheza, Randy Adinegoro, and Dani Iswahyuni, "Challenges in Implementing Land Certificates at the Ministry of Agrarian Affairs and Spatial Planning," *Marcapada: Jurnal Kebijakan Pertanahan* 1, no. 3 (2023): 71–80, <https://doi.org/https://doi.org/10.31292/mj.v3i1.42> Abstract.

³¹ Refialy, Sedyono, and Setiawan, "Pengamanan Sertifikat Tanah Digital Menggunakan Digital Signature SHA-512 Dan RSA."

or documents bearing a digital signature, the digital signature will be compromised and the Electronic Certification Center (BSrE) will identify the document as being fraudulent.

Barcodes are evaluated using QR Code technology in digital signatures. Cryptography is a mathematical engineering science that addresses issues of data integrity, data security, and data authentication. It is used in the application of QR Codes in digital signatures. To verify the legitimacy of digital documents and reduce the possibility of fraud, QR-Codes can be utilized as digital signatures. Electronic systems are superior to analog systems. It is true that every electronic device connected to the internet can be compromised to reveal security flaws.

4. CONCLUSION

The rationale behind implementing electronic land certificates within Indonesia's digital transformation initiative aims to provide superior public service. Philosophically, electronic certificates serve as instruments to safeguard land ownership and ensure legal certainty, leveraging technological advancements to strengthen Indonesia's societal bond with the land. Operationally, electronic land registration minimizes in-person interactions between service providers and customers while increasing efficiency at the input, process, and output nodes. It also lowers transaction costs associated with land transactions. Sociologically, digital certificates promise ease and benefits for landowners, fostering digital literacy through streamlined registration processes and potentially lowering land disputes and legal conflicts. Legally, these efforts are supported by Ministerial Regulation No. 1/2021 on Electronic Certificates, ensuring secure management of land records, minimizing unauthorized interventions, and mitigating risks associated with physical document loss or damage. Ultimately, the adoption of electronic certificates aims to enhance service effectiveness, reduce transaction costs, ensure legal certainty, and provide heightened legal protection compared to traditional analog documents.

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