

LEGAL PERSPECTIVES ON DIGITALISING LAND CERTIFICATES: Analysing Synchronisation and Harmonisation in Indonesia's Job Creation Law

Iwan Permadi¹; Diah Pawestri Maharani²; Md Yazid Ahmad³

¹Faculty of Law, Brawijaya University, Indonesia;

³Faculty of Law, Universiti Kebangsaan Malaysia, Malaysia

Email: iwan_permadi@ub.ac.id, dp.maharani@ub.ac.id, yazid@ukm.edu.my

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Abstract

This research explores the legal implications of land certificate digitalisation under Indonesia's Job Creation Omnibus Law, focusing on the synchronisation and harmonisation of related regulations. The main question examines how the transition from traditional paper-based certificates to electronic titles (e-titles) can align with Indonesia's legal framework. The study is intended to analyse primary legal challenges and compare the Indonesian experience with Rwanda's successful e-title system. The paper employs a normative-juridical method, examining legal materials, including Electronic Information and Transactions Law and

government regulations regarding land registration. The research discusses the synchronisation of these laws and their application in ensuring data security, legal certainty, and efficient land governance. The result of the discussion highlights that while digitalising land certificates can improve service delivery and efficiency, successful implementation is contingent upon the careful alignment of various laws and coordination between the National Land Agency and other government bodies. The comparative analysis with Rwanda's e-title system offers useful insights into addressing potential legal and administrative challenges in Indonesia's digital transformation of land administration. This research contributes to offering actionable insights for policymakers aiming to modernise land governance in Indonesia.

Penelitian ini mengkaji implikasi hukum digitalisasi sertifikat tanah berdasarkan UU Cipta Kerja, dengan fokus pada sinkronisasi dan harmonisasi peraturan perundang-undangan terkait. Fokus utama penelitian ini adalah untuk menganalisis tentang bagaimana transisi sertifikat tanah dalam bentuk kertas menjadi sertifikat tanah elektronik (e-title) dapat diselaraskan dengan kerangka hukum Indonesia yang ada. Penelitian ini diposisikan untuk menganalisis tantangan hukum utama dan membandingkan pengalaman Indonesia dengan sistem e-title di Rwanda yang dianggap berhasil. Paper ini akan mengkaji isu hukum ini dengan menggunakan metode yuridis normatif, yakni menganalisis berbagai bahan hukum peraturan perundangan-undangan, antara lain Undang-Undang Informasi dan Transaksi Elektronik, dan Peraturan Pemerintah yang terkait dengan pendaftaran tanah. Penelitian ini membahas sinkronisasi beberapa peraturan dan penerapannya dalam memastikan keamanan data, kepastian hukum, dan tata kelola pertanahan yang efisien. Hasil utama dari diskusi pada paper ini menyoroti bahwa meskipun digitalisasi sertifikat tanah dapat meningkatkan penyediaan layanan dan efisiensi, implementasi yang sukses bergantung pada penyelarasan berbagai undang-undang dan koordinasi yang cermat antara Badan Pertanahan Nasional dan badan pemerintah lainnya. Analisis

komparatif dengan sistem e-title Rwanda menawarkan wawasan yang berguna untuk mengatasi potensi tantangan hukum dan administratif dalam transformasi digital administrasi pertanahan Indonesia. Penelitian ini memberikan kontribusi wawasan praktis bagi pembuat kebijakan yang bertujuan memodernisasi tata kelola pertanahan di Indonesia.

Keywords: certificate digitalization, e-title, land registration, omnibus law.

Introduction

Passing Law Number 6 of 2023 concerning Job Creation under the Omnibus Law Concept (henceforth referred to as Job Creation Omnibus Law) is deemed relevant to the measure taken by the government to formulate the vision of Indonesia Maju 2045 as a strategic step to put Indonesia as one of the top five cities with global economic power in 2045.¹ The validation of the Job Creation Omnibus Law is intended to deregulate and de-bureaucratise overlapping regulations and the disharmony of sectoral laws and regulations to be replaced by holistic regulation.² This law seeks to position Indonesia among the world's top five economies by 2045. A significant component of this legislation involves digitalising land certificates, which is expected to modernise land administration and improve the country's ease of doing business. Despite its potential benefits, this policy has raised legal and technical questions, particularly regarding data security and regulatory harmonisation. For example, as of 2022, only 30% of Indonesia's land had been registered electronically, underscoring the urgency and challenges of implementing this reform.³

¹ Imam Koeswahyono, Diah Pawestri Maharani, and Airin Liemanto, "Legal Breakthrough of the Indonesian Job Creation Law for Ease, Protection, and Empowerment of MSMEs during the COVID-19 Pandemic," *Cogent Social Sciences* 8, no. 1 (December 31, 2022): 1–21, <https://doi.org/10.1080/23311886.2022.2084895>.

² Martitah Martitah et al., "Transformation of the Legislative System in Indonesia Based on the Principles of Good Legislation," *Journal of Indonesian Legal Studies* 8, no. 2 (November 5, 2023): 545–94, <https://doi.org/10.15294/jils.v8i2.69262>.

³ Fatemeh Jahani Chehrehbargh, Abbas Rajabifard, Behnam Atazadeh, Daniel Steudler, Identifying global parameters for advancing Land Administration Systems, Land Use Policy,

Notwithstanding the validation and juridical implementation, the Job Creation Omnibus Law has left several critical points to be further evaluated in administrative or substantive scopes, especially in land-related matters.⁴ One of the concepts further studied is issuing electronic proof indicating the right to land.⁵ This approach serves as the legal basis for issuing certificates as electronic documents. This matter is regulated in Article 147, mentioning: “The proof indicating the right to land, the right to tenement unit, the right to manage, and mortgage right, including the deed of land right transfer and other documents related to land can be issued in electronic form.”

Furthermore, the policy regarding electronic titles is asserted in the Regulation of Agrarian and Spatial Planning Minister/Head of National Land Agency Number 1 of 2021 concerning Electronic Title (henceforth referred to as Ministerial Regulation 1/2021), which regulates land certificates as electronic titles from the previous form as paper-based certificates with the process set by the Agrarian and Spatial Planning Minister/Head of National Land Agency.⁶ The enforcement of this regulation is intended to, first, manifest the modernisation of the land administrative services to increase the indicators of access to business and public services for people, so optimisation of information and communication-based technology utilisation is required by implementing services of electronic-based land administration; second, to guarantee

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<https://doi.org/10.1016/j.landusepol.2023.106973>.

(<https://www.sciencedirect.com/science/article/pii/S0264837723004398>).

⁴ Iwan Permadi, Diah Pawestri Maharani, and Zainal Amin Ayub, “Averting Deforestation: Designing the Model of a Public Participation-Based Environmental Agreement of Shifting Functionality of Forest,” *Journal of Indonesian Legal Studies* 8, no. 2 (November 5, 2023): 707–52, <https://doi.org/10.15294/jils.v8i2.68911>.

⁵ Nur Hidayani Alimuddin, “Implementasi Sertifikat Elektronik Sebagai Jaminan Kepastian Hukum Kepemilikan Hak Atas Tanah Di Indonesia,” *SASI* 27, no. 3 (October 7, 2021): 335, <https://doi.org/10.47268/sasi.v27i3.509>.

⁶ Liliana Tediosaputro and Retno Mawarini Sukarningsih, “Electronic Land Certificate Versus Analog Land Certificate in Proof of Ownership Certainty,” in *Proceedings of the International Conference On Law, Economics, and Health (ICLEH 2022)* (Atlantis Press, 2023), 150–57, https://doi.org/10.2991/978-2-38476-024-4_18.

electronic-based land services as intended in point a, land registration results in the issuance of an electronic document. In its implementation, the government needs to set the Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency regarding the electronic titles.⁷

A Certificate serves as proof of right as intended in Article 19 Paragraph (2) letter c of Basic Agrarian Law for the right to land, right to manage, waqf land, the right to a tenement unit, and mortgage right, each of which is proven in a land document.⁸ The provision of Article 4 paragraph (1) in conjunction with Article 3 letter a (Government Regulation concerning Land Registration) implies that a land certificate is defined as proof showing a person's right to land and the building erected on it. This certificate guarantees certainty and legal protection.⁹ On the other hand, an electronic title is defined in the Regulation of Agrarian and Spatial Planning Minister/ the Head of National Land Agency Number 1 of 2021 concerning an Electronic Title as a certificate issued with an electronic system in the form of an electronic document.¹⁰ The electronic system involves a series of electronic devices and procedures that help prepare, collect, process, analyse, store, display, notify, transmit, and/or spread electronic information.¹¹ An electronic document is defined as electronic information made, passed, sent, received, or stored in analogue, digital, electromagnetic, and optical form or any similar form that can be viewed, displayed, and/or heard via computer or electronic systems, but they are not restricted to writing, sound, images, maps, designs, photos and something similar, letters, signs, figures, access

⁷ Considering part of the Regulation of Agrarian and Spatial Planning Minister/the Head of Land Deed Official Number 1 of 2021 concerning Electronic Title (PM 1/2021).

⁸ Firman Freaddy Busroh, "Konseptualisasi Omnibus Law Dalam Menyelesaikan Permasalahan Regulasi Pertanahan," *Arena Hukum* 10, no. 2 (August 1, 2017): 227–50, <https://doi.org/10.21776/ub.arenahukum.2017.01002.4>.

⁹ Article 4 paragraph (1) in conjunction with Article 3 letter a of Government Regulation Number 24 of 1997 concerning Land Registration.

¹⁰ Article 1, point 8 of Minister Regulation 1/2021.

¹¹ Article 1, point 8 of Minister Regulation 1/2021.

codes, symbols, perforations, all of which carry meaning or can be understood by particular persons.¹²

The ideas of the digitalisation of electronic titles still spark pros and cons in society.¹³ The government ensures the safety of electronic title storage, considering that there is concern among people believing that digitalisation may lead to the leak of personal data on electronic citizen cards.¹⁴ On the other hand, the Agrarian Development Consortium views certificate digitalisation as a supplementary document that can be referred to when the land statement is missing or damaged.¹⁵ Some, however, doubt the safety the electronic title can give. The Directorate General of Right Provision and Land Registration, the Agrarian and Spatial Planning Ministry/the Head of the National Land Agency assert that data storage can guarantee top safety. The technology design involves the National Cyber and Crypto Agency and upholds data security. The ministry concerned has administered electronic mortgage rights services (HT-el) since last year.¹⁶

Departing from the above issue, this research aims to analyse the legal framework surrounding the digitalisation of land certificates and propose solutions to ensure data synchronisation in electronic system-based government administration complies with positive law. This study aims to bridge the gap

¹² Article 1, point 8 of Minister Regulation 1/2021.

¹³ Rouhshi Low, "From Paper to Electronic: Exploring the Fraud Risks Stemming From the Use of Technology to Automate the Australian Torrens System," *Bond Law Review* 21, no. 2 (January 1, 2010): 107–32, <https://doi.org/10.53300/001c.5536>.

¹⁴ Arsyilla Destriana and Tiurma Mangihut Pitta Allagan, "Peran Pejabat Pembuat Akta Tanah Dalam Administrasi Pertanahan Melalui Sertipikat Tanah Elektronik," *PALAR | PAKUAN LAW REVIEW* 8, no. 1 (January 1, 2022): 91–106, <https://doi.org/10.33751/palar.v8i1.4590>.

¹⁵ Eko Ari Wibowo, "Kebijakan Sertifikat Tanah Elektronik, KPA: Melanggar Aturan Lebih Tinggi," <https://nasional.tempo.co/read/1429983/kebijakan-sertifikat-tanah-elektronik-kpa-melanggar-aturan-lebih-tinggi>, February 5, 2021.

¹⁶ Mortgage right is the right to land as a security to guarantee debt payment; it gives position especially to a particular creditor among other creditors. In this context, Agrarian and Spatial Planning Minister/National Land Agency has involved 1,700 institutions, including banks, lending companies, cooperatives, and others. There have been 500,000 electronic titles issued since last year, and they could be used as security for loans provided by banks.

between existing legal structures and the evolving needs of modern land governance, addressing the concerns raised by previous research. The digitalisation of land administration is not an entirely new concept. Several countries, including Rwanda, South Korea, and Malaysia, have implemented electronic land titling systems with varying degrees of success. Recent studies have focused on the impact of e-titles on administrative efficiency and legal certainty. For example, a study found that digital land certificates reduce land disputes by 40% due to improved transparency and traceability in land transactions.¹⁷ Similarly, Prince and Walter¹⁸ argue that e-titles foster greater trust in land markets by ensuring data security through blockchain technology. However, these systems face challenges, such as cybersecurity risks and the digital divide between urban and rural populations. In contrast, e-title systems have weaknesses, such as the high initial costs of implementation and resistance from stakeholders used to paper-based systems. In Indonesia, the early implementation of electronic mortgage rights (HT-el) in 2021 has seen mixed reactions, with concerns about data privacy and administrative transparency.¹⁹ This research aims to build on the strengths of previous studies while addressing these gaps by examining how the digitalisation of land certificates, regulated under the Job Creation Omnibus Law, can be synchronised with other legal frameworks in Indonesia.

¹⁷Jahani Chehrehbargh, F., Rajabifard, A., Atazadeh, B., & Steudler, D. (2024). Current challenges and strategic directions for land administration system modernisation in Indonesia. *Journal of Spatial Science*, 1–33. <https://doi.org/10.1080/14498596.2024.2360531>.

¹⁸ Prince Donkor and Walter Timo, Transparency of Land Administration and the Role of Blockchain Technology, a Four-Dimensional Framework Analysis from the Ghanaian Land Perspective, *MDPI Land Review*, <https://doi.org/10.3390/land9120491>.

¹⁹ Aditya, T., et al. 2020. Participatory land administration in Indonesia: quality and usability assessment. *The Land*, 9(open in a new window) (3(open in a new window)), 79. doi:10.3390/land9030079.

Research Methods

The research employs a normative-juridical method to analyse the collected legal materials. This approach follows a structured process, beginning with identifying legal facts concerning the digitalisation of land certificates under the Job Creation Omnibus Law. Next, relevant legal and non-legal materials were collected to provide a comprehensive understanding of the topic. These materials were then studied to identify the main issues, particularly regarding data synchronisation in electronic government administration systems.

To analyse the materials, the research incorporated statutory, conceptual, and analytical approaches. The statutory approach involves reviewing existing laws and regulations related to land certificate digitalisation. The conceptual approach examines the theoretical underpinnings of electronic title implementation. Finally, the analytical approach assesses the applicability and coherence of the laws in practice. Based on the analysis, conclusions are drawn, and solutions are proposed to address any identified legal problems. This structured approach ensures that the research not only highlights the challenges but also provides actionable recommendations for synchronising electronic data systems with the legal framework.

The primary and secondary materials used in this research consist of various laws and regulations, including Law Number 11 of 2020 concerning Job Creation, Law Number 30 of 2014 concerning Government Administration, Law Number 11 of 2008 concerning Electronic Information and Transactions as amended to Law Number 19 of 2016 concerning the Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions. The Basic Agrarian Law of 1960 and Government Regulation Number 24 of 1997 concerning Land Registration also provide crucial legal foundations. The study also examines Government Regulation Number 71 of 2019 concerning Electronic Systems and Transactions and Presidential Regulation Number 48 of 2020 concerning the National Land Agency. Lastly,

the Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency Number 1 of 2021 concerning Electronic Title is a key focus. The secondary legal materials were collected as supplementary data to the primary materials, including textbooks, articles obtained from magazines and scientific journals in law, and other supporting sources. The materials were processed using a deductive method by concluding a general issue regarding the research problems. The legal materials were extensively analysed.

Discussion

The Synchronisation of Legal Basis of the Validity of Land Certificate Digitalisation

The term electronic title is defined in Article 1 point 9 of Law Number 11 of 2008 concerning Electronic Information and Transactions as amended to Law Number 19 of 2016 concerning the Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (henceforth referred to as UU ITE). This provision mentions Article 1 point 9 of UU ITE: “An electronic title has its electronic nature bearing electronic signatures and an identity that shows the status of a legal subject as the party involved in an electronic transaction issued by an administrator of an electronic title.”

Article 4 of UU ITE is not only intended to bring about the intellectual life of the state and develop national trades and economy, but information technology also helps improve the effectiveness and efficiency of public services for the well-being of the citizens.²⁰ In terms of the issuance of a land certificate by the National Land Agency under the Agrarian and Spatial Planning Ministry/the Head of the National Land Agency, the utilisation of information technology has been growing in such a way, covering the services of the land registration process and the issuance of the certificate that has gradually shifted

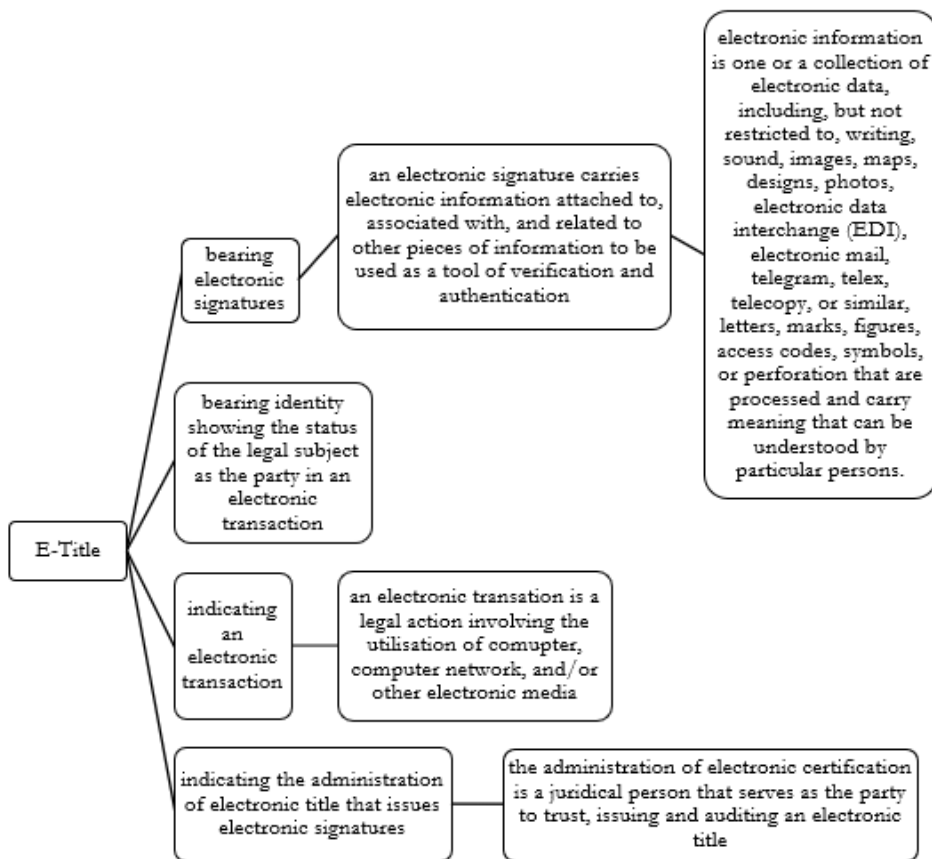
²⁰ Article 4 Law Number 11 of 2008 concerning Electronic Information and Transactions as amended to Law Number 19 of 2016 concerning the Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions.

from conventional issuance to the electronic one.²¹ The paper-based certificate is now issued in an electronic form known as “sertipikat-el” (e-title) as independently governed in the Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency Number 1 of 2021 concerning Electronic Title. With such a land registration system and electronic title issuance, the National Land Agency (henceforth referred to as BPN) can provide services to the public effectively and efficiently. Moreover, the transformation to electronic title issuance is expected to give land rights holders wider access to optimally and accountably use information technology. Last but not least, the digitalisation of services and land certificate issuance must guarantee safety, justice, and legal certainty for users and information technology service providers.

Regarding the electronic title concept as in UU ITE, the following diagram was made by the author to show the elements and parties involved in electronic title issuance.

²¹ Stevani Deska Syriac BR M, “Application of Electronic Land Certificates in The Indonesian Land System,” *Interdisciplinary Journal and Humanity (INJURITY)* 3, no. 1 (January 4, 2024): 1–8, <https://doi.org/10.58631/injurity.v3i1.157>.

Figure 1. Electronic Title Concept in UU ITE



Source: The Author's Analysis

The diagram illustrates several key components of an electronic title. First, electronic signatures are fundamental. According to Article 1, point 12, an electronic signature is electronic information linked or related to other electronic data used for verification and authentication. This information, as defined in Article 1, point 1, includes various forms of electronic data such as writing, sounds, images, maps, designs, and symbols that carry meaning and are recognisable to individuals.

Next, the identity associated with an electronic title reflects the legal status of the involved parties. This depends on the type of land rights, as outlined

in Article 16 of the Agrarian Law (UU No. 5 of 1960). Generally, these rights pertain to Indonesian citizens or legal entities established under Indonesian law and located within the country. The legal actions taken through electronic transactions also play a crucial role. According to Article 1, point 2, an electronic transaction is a legal action carried out via computer networks or electronic media. The issuance of an electronic title involves an electronic certification service provider, a juridical person responsible for issuing and verifying the electronic title, as per Article 1, point 10.

Additionally, Article 5, paragraph 1, clarifies that electronic information, documents, and signatures are valid as legal evidence. These documents are legitimate if processed through an approved electronic system. However, certain documents, like those requiring a notarial deed or land deed, are exempt from being fully electronic. Finally, an Electronic Certification Provider (PSrE) is responsible for issuing and verifying electronic signatures and legal identities. As a trusted entity, PSrE must be recognised by the Ministry of Communication and Informatics and operate according to Government Regulation No. 82 of 2012 concerning Electronic Systems and Transactions.

Job Creation Omnibus Law (Article 147 and Article 175 point 3)

One of the breakthroughs in land services, as outlined in Job Creation Omnibus Law, is the use of an electronic document in the administration of land registration governed in Article 147 and Article 175 point 3. Article 147 implies that the proof of the right to land, an ownership right to a tenement unit, the right to manage, and the mortgage right, including the deed bearing the transfer of land right and other documents, can be issued in an electronic form. The proof of the land right refers to a land certificate, which serves as strong evidence, meaning that unless proven otherwise, the physical and juridical data contained therein must be accepted as accurate. Naturally, the physical and juridical data stated in the certificate should align with the data in the land register and

relevant survey documents.²² According to Article 19, paragraph (2) letter c of Basic Agrarian Law, the right to land, the right to manage, waqf land, ownership right to tenement unit, and mortgage right are recorded in the land register concerned.

Furthermore, Article 175, point 3 indicates that the digitalisation of issuing e-titles is accompanied by the adjustment of decision-making processes by officials and/or Government Agencies through electronic systems. These decisions will have the same legal force as written decisions, and their issuance replaces the written decisions. According to Law of the Republic of Indonesia Number 30 of 2014 concerning Government Administration, an Electronic Decision utilises electronic media in its making. This decision includes the Decision of Government Administration (*Keputusan Tata Usaha Negara or Keputusan Administrasi Negara in Bahasa*) issued by an agency and/or an official government in government administration (The National Land Agency/Badan Pertanahan Nasional/BPN).

The BPN, a government official in the state administration, is authorised to issue land certificates, while these certificates serve as proof of the Decision of the State Administration, as governed in Article 1 point 9 of law Number 51 of 2009 concerning the Second Amendment to Law Number 5 of 1986 concerning State Administrative Court, implying that the Decision of State Administration is given in a written statement issued by a state administrative agency or an official setting forth legal actions taken by the state administration according to the statute concerned. This decision is concrete, individual, and absolute and poses legal consequences for a person or a juridical person in a civil scope. Therefore, a land certificate represents the Decision of State Administration according to the provisions set by the Job Creation Omnibus Law that can be issued electronically. A government official and/or a government institution—BPN—is authorised to make and process the

²² Boedi Harsono, *Hukum Agraria Indonesia Sejarah Pembentukan Undang-Undang Pokok Agraria, Isi Dan Pelaksanaannya* (Jakarta: Djambatan, 2005).

Decision electronically, and the central government must approve it. This electronic title will hold permanent legal force equal to the written Decision and will be in force after this Decision is received by the party concerned. A decision made electronically, as asserted, does not require the issuance of its conventionally written form. If the certificate has been made, its position will replace the conventionally written one. This concept is parallel to that of e-title issuance in other countries.²³

Government Regulation Number 24 of 1997 concerning Land Registration Amended to the Government Regulation of Indonesia Number 18 of 2021 concerning the Right to Manage, Right to Land, Tenement Unit, and Land Registration

As stated in its general elucidation, one of the objectives behind the enactment of Basic Agrarian Law is to establish unity and simplicity in land law and lay the foundations for providing legal certainty regarding land rights for the entire population.²⁴ One of these legal certainty principles is embodied in Law Number 5 of 1960 concerning Basic Agrarian Principles Article 19, paragraphs 1 and 2 implicate that land registration is aimed at guaranteeing legal certainty. In the Land Law of the Republic of Indonesia, it is explained that agrarian is matters related to registration, provision, use, tenure, and cultivation of land, as well as any activities on land.²⁵ Land registration comprises three steps: first, it requires measuring, mapping, and land bookkeeping; second, it requires registration of rights to land and transfer of rights; third, it requires the issuance of statements serving as licit proof of rights. This article indicates that the

²³ Benito Arruñada, "Electronic Titling: Potential and Risks," *New Zealand Law Journal*, 2010, 115–20.

²⁴ Desi Apriani and Arifin Bur, "Kepastian Hukum Dan Perlindungan Hukum Dalam Sistem Publikasi Pendaftaran Tanah Di Indonesia," *Jurnal Bina Mulia Hukum* 5, no. 2 (December 8, 2020): 220–39, <https://doi.org/10.23920/jbmh.v5i2.11>.

²⁵ Koko Komaruddin, "Fairness in the Distribution of Land Ownership in Indonesia Based on Islamic Law Perspective," *Ijtihad: Jurnal Wacana Hukum Islam Dan Kemanusiaan* 20, no. 2 (December 29, 2020): 211–34, <https://doi.org/10.18326/ijtihad.v20i2.211-234>.

principles of the state will guarantee the law and certainty of rights to registered land. The registered land will be proven by the issuance of a “statement of proof of rights” that serves as proof of right with its legal force. However, it is important to highlight that this provision does not mention “certificate” as the statement of proof of rights.²⁶

Under the regulation stated in Article 19, Government Regulation Number 10 of 1961 concerning Land Registration was passed, and it was further amended to Government Regulation Number 24 of 1997 concerning Land Registration. Article 1 point 1 of this Government Regulation defines land registration as follows: “Land registration is a series of ongoing, sustainable, and regular activities conducted by the government, such as physical and juridical data collection, bookkeeping, presentation, and maintenance in the form of a map or a list, showing land spaces and a tenement unit and the provision of proof of rights distributed to each land space to which a right is attached, and the ownership right to a tenement unit and other attached particular rights.”

Indonesia initiated land registration in 1961, and from 2016 to 2020, there was a massive number of about 34 million registered plots of land in Comprehensive Systematic Land Registration (henceforth referred to as PTSL). The provision regarding PTSL is governed in the Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency of the Republic of Indonesia Number 35 of 2016 concerning Acceleration of Comprehensive Systematic Land Registration. Although no regulation explicitly governs electronic land registration, PTSL mentions Computerisation of Land-Related Activities (henceforth KKP), which refers to information and communication technology-based administration and management of agrarian/land and spatial planning activities. In addition, the presence of the Job Creation Omnibus Law also introduces a new policy in land registration. Article 175 point 3 shows that

²⁶ Enny Agustina, “The Used of Certificate of Land Rights on Proving in Land Disputes,” *Administrative and Environmental Law Review* 2, no. 2 (December 31, 2021): 71–80, <https://doi.org/10.25041/aclr.v2i2.2356>.

BPN can issue a certificate of right to land as proof of right to land, ownership right to a tenement unit, right to manage, and mortgage right in electronic form. The certificate is part of the Decision issued by the State Administration in electronic form. Therefore, it must be processed electronically in a system set by the Central Government. A series of continuous land registrations introduced by the government involves collection, management, bookkeeping, and presentation of physical and juridical data in the form of a map and list and issuance of a statement of proof of right to land to which the right is attached. All these stages must be processed electronically.

Government Regulation Number 24 of 1997 concerning Land Registration, amended to Government Regulation Number 18 of 2021 concerning the Right to Manage, Right to Land, Right to a Tenement Unit, and Land Registration as the successor regulation for Job Creation Omnibus Law also governs the administration of electronic land registration including the deed issued electronically by a land deed official.²⁷

Government Regulation Number 71 of 2019 concerning Electronic Systems and Transactions

Government Regulation Number 71 of 2019 concerning Electronic Systems and Transactions is drafted in response to the massive development of information technology to encourage digital economic development and the enforcement of state sovereignty regarding electronic information in the Unitary State of Indonesia. This regulation governs several matters regarding electronic titles.

²⁷ Article 84, 85 and 86

Table 1. Several Regulatory Bases in Government Regulation Number 71 of 2019 concerning Electronic Systems and Transactions

No	Article	Stated Definition	Analysis
1.	Article 1 point 1	An electronic system is a series of electronic devices and procedures functioning to prepare, collect, process, analyse, store, display, notify, transmit, and/or spread electronic information.	The electronic system intended involves a series of electronic devices and procedures ranging from those at the registration stage involving collection, process, bookkeeping, presentation, and maintenance of physical and juridical data to the issuance of the certificate
2	Article 1 point 2	An electronic transaction refers to a legal action done with the help of a computer, computer network, and/or other electronic media.	The legal action intended in the issuance of an electronic title in this context involves the utilisation of a computer, computer network, and/or other electronic media at the stages of electronic registration in the provisions outlined in PTSL concerning KKP that involves administration and management of agrarian/land and spatial activities based on information and communication technology.
3	Article 1 point 5	The administration of electronic systems within public scope refers to the electronic system administration performed by a state institution or an	BPN is the electronic system provider within the public scope

		institution appointed by a state administration.	
4	Article 1 point 7	A Ministry or Institution refers to an institution of state administration responsible for monitoring the sector and issuing the regulations for the sector concerned.	The Ministry intended in the context of electronic title issuance is the Agrarian and Spatial Planning Ministry/the National Land Agency
5	Article 1 point 8	Electronic information is one or unity of electronic data, including, inter alia, writing, sounds, images, maps, designs, photos, electronic data interchange (EDI), electronic mail, telegram, telex, telecopy, or something similar, letters, marks, figures, access codes, symbols, or perforation that are processed and carry meaning that can be understood by particular persons.	The electronic information intended in this context is enacted in the electronic title that bears electronic signatures.
6	Article 1 point 10	Information technology functions to collect, prepare, store, process, notify,	The registration and issuance of an electronic land certificate certainly use information technology ranging from

		analyse, disseminate information.	and/or collecting, preparing, storing, processing, notifying, analysing, and/or disseminating land-related information needed in the certificate.
8	Article 1 point 11	The use of an electronic system involves every person, state institution, juridical person, service, facility, or information made available by an electronic system provider.	The use of an electronic system in the context of electronic title issuance involves every person, state institution, juridical person, and the public that utilises the facilities of electronic registration provided by BPN as an electronic system provider.
9	Article 1 point 20	An electronic title carries its electronic characteristics and identity that show the status of the legal subject as the party involved in an electronic transaction issued by an electronic title provider.	The certificate, in this context, refers to an electronic land certificate

Source: Government Regulation Number 71 of 2019.

The Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency Number 1 of 2021 concerning Electronic Title

The Regulation of Agrarian and Spatial Planning Minister/the Head of National Land Agency Number 1 of 2021 concerning Electronic title was initiated to realise the modernisation of land-related services to help improve the indicators that give wider access to businesses and public services for the public by optimising the utilisation of technology and communication and

implementing electronic-based land services.²⁸ Electronic title issuance is an attempt to provide electronic-based land services. The electronic title is an electronic document serving as proof of electronic land registration.

In broad terms, land registration is delineated as a systematic and ongoing array of governmental activities involving the systematic, periodic, and methodical collection, processing, recording, presentation, and upkeep of both tangible and juridical data pertinent to each land parcel owned by individuals, legal entities, and government entities.²⁹ Chapter II, regarding the Implementation of Electronic Systems for Land Registration, implies that land registration can be performed through electronic systems at the first-time registration stage and the upkeep of registered land data.³⁰ The results will consist of data, electronic information, and/or electronic documents containing valid and authentically preserved data of rights holders, physical data, and juridical data of land parcels, all stored within the Electronic System Database.³¹ Moreover, the operational electronic system in the issuance of e-titles will also adhere to reliability, security, and accountability in terms of data collection at all stages, ranging from data processing to data presentation.³² The outcomes of administering this electronic system will manifest in the form of electronic documents issued through the electronic system and/or documents transferred to electronic documents through media conversion.³³

Electronic Documents issued through the Electronic System are authenticated using Electronic Signatures according to the provisions of the legislation. Meanwhile, electronic documents resulting from media conversion will be validated by authorised officials or designated officials and provided with

²⁸ Iwan Permadi and Herlindah, "Electronic Title Certificate as Legal Evidence," *Digital Evidence and Electronic Signature Law Review*, July 27, 2023, 47–61, <https://doi.org/10.14296/deeslr.v20i.5636>.

²⁹ Government Regulation No. 18 of 2021.

³⁰ Article 2, paragraph (1).

³¹ Article 3.

³² Article 4, paragraph (2).

³³ Article 4, paragraph (3).

a digital stamp via the electronic system.³⁴ Both types of electronic documents, including their printed outputs, are valid legal evidence and an extension of valid legal evidence compliant with the applicable procedural law in Indonesia.³⁵ For evidential purposes, electronic documents can be accessed through the electronic system, thereby equating their status to the evidential strength of physical certificates.³⁶ This evidential power encompasses the probative force of origin, formal and material probative force.³⁷

As the partners of the Agrarian and Spatial Planning Minister/ National Land Agency, land deed officials (PPAT) play a vital role in land registration. Since 2017, the Ministry concerned has conducted PTSL as a revolutionary program to help accelerate land registration all over Indonesia. Massive development of land-related services has pushed the ministry and land agency to set collaborations to provide good service³⁸ that is intended to eliminate procedural errors, errors in the implementation of the legislation, errors in the subject of rights, errors in the object of rights, errors in the type of right, errors in area survey, overlapping land rights, incorrect juridical and physical data; or other administrative errors.³⁹

³⁴ Article 4, paragraph (5)

³⁵ Dian Dewi Khasanah, "Analisis Yuridis Kekuatan Hukum Sertipikat Tanah Elektronik Dalam Pembuktian Hukum Acara Perdata," *Widya Bhumi* 1, no. 1 (June 1, 2021): 13–24, <https://doi.org/10.31292/wb.v1i1.5>.

³⁶ Indira Retno Aryatie, Oemar Moechthar, and Angela Melani Widjaja, "Kekuatan Pembuktian Sertipikat Hak Atas Tanah (Konvensional Dan Elektronik)," *Perspektif Hukum* 22, no. 1 (2022): 1–28, <https://doi.org/10.30649/ph.v22i1.88>.

³⁷ Di sini menyangkut kebenaran isi dari otentik tersebut, artinya apa yang tercantum dalam akta itu adalah menurut kenyataannya. Sebagai contoh jika dalam akta otentik disebutkan bahwa A dan B melakukan jual beli maka dianggap benar bahwa jual beli itu benar-benar terjadi.

³⁸ Biro Hubungan Masyarakat Kementerian Agraria dan Tata Ruang/ Badan Pertanahan Nasional, "Implementasi PP 18/2021, PPAT Diminta Terus Pastikan Perkembangan Terkait Pendaftaran Tanah," <https://kab-jember.atribnpn.go.id/siaran-pers/detail/702/implementasi-pp-182021-ppat-diminta-terus-pastikan-perkembangan-terkait-pendaftaran-tanah>, June 23, 2021.

³⁹ Article 107 of the Regulation of Agrarian Minister 9/1999.

The Synchronisation of Principles in Land Certificate Digitalisation

A land certificate serves as authentic proof of ownership right to land.⁴⁰ To be granted this ownership proof, registration with the authority is required. Principally, the certificate is a vital document needed by every person as proof of freehold title, as outlined in Article 19 of Law Number 5 of 1960 concerning Basic Agrarian Principles, implying that the essence of the registration is to ensure a licit freehold title of land for the person concerned.⁴¹

Since the effectuation of Basic Agrarian Law, the paradigm of certificate registration and issuance has been conventional, and there have been some issues of transparency, double certificates, and land mafia.⁴² To respond to these issues, the realisation of reform that involves the utilisation of technology is necessary. The Minister Regulation Number 1 of 2021 has set a turning point in the reform of national law that takes into account the harmonisation of the development of technology.

Electronic title registration and issuance in Indonesia have been left behind compared to the systems in other countries. In South Korea, for example, digitalisation in land services has taken place since 1988. In Southeast Asia, digitalisation has been applied in Malaysia, Singapore, and the Philippines.⁴³ In other words, the regulation of the Agrarian and Spatial Planning Minister/the National Land Agency represents an appropriate policy intended to improve national agrarian services. In line with the enforcement of the regulation

⁴⁰ Adriaan Bedner and Yance Arizona, "Adat in Indonesian Land Law: A Promise for the Future or a Dead End?," *The Asia Pacific Journal of Anthropology* 20, no. 5 (October 20, 2019): 416–34, <https://doi.org/10.1080/14442213.2019.1670246>.

⁴¹ Muhammad Ilham Arisaputra et al., "Akuntabilitas Administrasi Pertanahan Dalam Penerbitan Sertifikat," *Mimbar Hukum* 29, no. 2 (September 30, 2017): 276–91, <https://doi.org/10.22146/jmh.16383>.

⁴² Damar, "Eks Walkot Semarang Gugat BPN Soal Sertifikat Tanah Ganda," <https://www.cnnindonesia.com/nasional/20210422063821-12-633131/eks-walkot-semarang-gugat-bpn-soal-sertifikat-tanah-ganda>, April 22, 2021.

⁴³ Ana Silviana, "Urgensi Sertifikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah Di Indonesia," *Administrative Law & Governance Journal* 4, no. 1 (2021): 51–68, <https://doi.org/10.14710/alj.v4i1.51-68>.

concerned, Asnawi Manaf argues that this digitalisation will help reduce land-related conflict due to mafia practices and other administrative issues in land services. This digitalisation will also support data integration by the Agrarian and Spatial Planning Ministry/National Land Agency to allow for comprehensive data.⁴⁴ In line with this perspective, the Director of the Regulation of Land and Spatial Planning Registration, Dwi Purnama, argues that digitalisation will also contribute to the effectiveness and efficiency of land service administration in giving a better position to Indonesia in terms of easy access to business setup.⁴⁵

In the analysis of land certificate digitalisation, several laws serve as the basis. The harmonisation and unity in the administration concerned need to consider the synchronisation of legal principles in the statutes concerned. Synchronising measures are elaborated on in the following Table:

Table 2. Synchronisation of Legal Principles in the Legislation Regarding Land Certificate Digitalisation

Law concerning Agrarian Basic Principles	Law concerning Government Administration	Law concerning Electronic Information and Transactions	Law concerning Job Creation
Principles: 1. Nationality 2. The right to control the state;	Principles: 1. Legality; 2. Protection of human rights; and	Principles: 1. Legal certainty; 2. Benefits; 3. Prudence	Principles: 1. Right distribution; 2. Legal certainty;

⁴⁴ D.Dj. Kliwatoro, "Pakar: Digitalisasi Sertifikat Persempit Ruang Gerak Mafia Tanah," <https://www.antaranews.com/berita/2006665/pakar-digitalisasi-sertifikat-persempit-ruang-gerak-mafia-tanah>, February 18, 2021.

⁴⁵ Silviana, "Urgensi Sertifikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah Di Indonesia."

3. The right to the recognition of <i>ulayat</i> rights;	3. General Principles of Good Governance	4. Good faith; and	3. Business access;
4. National agrarian law according to <i>adat</i> law		5. Freedom of preference in technology or technology-neutral	4. Togetherness; and
5. Social function;			5. Independence
6. Land reform;			
7. Land use;			
8. Public interest;			
9. Land registration			

Source: Author's Analysis

This table presents the findings from the synchronisation analysis of the Law concerning Agrarian Basic Principles, the Law on Government Administration, the Law concerning Electronic Information and Transactions, and the Law concerning Job Creation. The legal principles represent the common sense and conscience of human beings, and these serve as the basis on which people are aware of what is good and bad. These principles also serve as the foundations of a legal system to achieve legal objectives. Karl Larenz argues that legal principles represent the bases laden with constructional values in positive law. Principally, these legal principles are abstract values that refer to the social life of the people.⁴⁶

In a practical scope, as expressed by O. Notohamidjojo, the function of the legal principles involved in legislative drafting serves as an initial foundation.

⁴⁶ I Dewa Gede Atmadja, "ASAS-ASAS HUKUM DALAM SISTEM HUKUM," Kertha Wicaksana 12, no. 2 (2018): 145–55, <https://doi.org/10.22225/kw.12.2.2018>.

That is, legal norms represent the manifestation of those principles in society. Without such principles, the legislation will be bare of foundation. In terms of land certificate digitalisation, these principles need to be aligned to ensure that harmony ensues, and it certainly requires the classification of relevant principles to serve as the foundation of land certificate digitalisation. These principles are given as follows:

1) Legal Certainty. Utrecht asserts that legal certainty carries two definitions. First, legal certainty is related to the regulation that decides whether something can or cannot be done by a person. Second, legal certainty represents the protection of people's rights regarding actions taken by the government.⁴⁷ The latter focuses more on the essence of strict and clear legal norms to ensure no doubt about the law concerned. According to Kuntjoro Purbopranoto, legal certainty also encompasses procedural and substantive aspects. In procedural terms, legal certainty implies that existing policies do not favour any particular parties, whereas, in substantive terms, legal certainty relates to the realisation and protection of everyone's rights. This means that legal certainty in substantive terms emphasises that the government cannot revoke anyone's rights established by the policy unless there are specific grounds. Instead, it must undergo a judicial process.⁴⁸ In the aspect of agrarian law, the implementation of the principle of legal certainty regarding land freehold title is intended to prove that there must be a document that gives a vivid statement that proves the title.⁴⁹ Land certification, ranging from the process of registration to issuance, should be regulated in an integrated way.

2) Land Registration. Land registration is principally an initial stage in land administration to gain the freehold title of the land. Registration is

⁴⁷ Utrecht, *Pengantar Dalam Hukum Indonesia* (Jakarta: Penerbit Balai Buku Ichtiar, 1959).

⁴⁸ Kuntjoro Purbopranoto, *Beberapa Catatan Hukum Tata Pemerintahan Dan Peradilan Administrasi Negara* (Bandung: Alumni, 1997).

⁴⁹ Indra Yudha Koswara, "Pendaftaran Tanah Sebagai Wujud Kepastian Hukum Dalam Rangka Menghadapi Masyarakat Ekonomi Asean (MEA)," *Jurnal Hukum Positum* 1, no. 1 (December 13, 2016): 23–38, <https://doi.org/10.35706/positum.v1i1.525>.

expected to guarantee the certainty and protection of the land as an object under a person's ownership.⁵⁰ Unregistered land will not let the person concerned claim the land under his/her ownership. Thus, land registration is deemed vital as a requirement to obtain a land certificate. Land registration is done according to simplicity, safety, affordability, up-to-date, and transparency principles as in the Government Regulation Number 24 of 1997 concerning Land Registration. Simplicity represents brief and easy processes; safety represents appropriate land registration that guarantees legal certainty for all; affordability means an inexpensive registration process, considering that not all Indonesian people are entitled to upper economic class; up-to-date refers to updated data to ensure that no overlapping or fictitious data are generated.⁵¹ In terms of the transformation of land registration from the conventional processes to the digital ones, *mutatis mutandis*, these principles still apply because the change lies in the use of the technology that eases people in land registration. The principles *per se* are the fundamental aspects that apply and have to be upheld in terms of their application.

3) Benefit. Jeremy Bentham argues that deciding whether a law is beneficial can be seen from its quantity. In other words, if many people feel happy, the law can be beneficial.⁵² In this principle, enforcing a particular law should uphold benefits that work for all people in general.⁵³ The digitalisation of land certificates must pay attention to its benefit to society so that the policy

⁵⁰ Adinda Ariandayu and Lego Karjoko, "Implementasi Asas Terjangkau Pendaftaran Tanah Di Kabupaten Sukoharjo Untuk Mempercepat Pensertifikatan Tanah," *Jurnal Repertorium* 6, no. 1 (2019): 1–13.

⁵¹ Reni Widayawati, "Asas Pendaftaran Tanah Dalam Sertifikasi Massal Atas Tanah Negara Melalui Proyek Operasional Nasional Agraria (PRONA) Di Kelurahan Ketelan Surakarta" (Skripsi, Universitas Sebelas Maret, 2008).

⁵² Muhammad Alim, "ASAS-ASAS HUKUM MODERN DALAM HUKUM ISLAM," *Jurnal Media Hukum* 17, no. 1 (2010), <https://doi.org/10.18196/jmh.v17i1.373>.

⁵³ Jeremy Bentham, *The Theory of Legislation (Teori Perundang-Undangan)*, translated by Nurhadi, (Bandung: Nusantara & Nuansa, 2006); Firman Hidayat, "Tinjauan Asas Kepastian Hukum, Keadilan, Dan Kemanfaatan Dalam Akta Perjanjian Kawin Yang Di Buat Oleh Notaris," *Jurnal Akta* 4, no. 4 (2017): 591–99.

can be relevant to people's needs. Digitalisation procedures should be made simpler to help ensure that people stick to the rules.

4) General Principles of Good Governance (*Asas Umum Pemerintahan Yang Baik /AUPB*). These principles are intended to limit the authority of the government. These principles were introduced following the shifting concept of the state of law from the state of a regulator to the state of welfare. Historically, the concept of AUPB was derived from a study by the Dutch government commission in 1950, which aimed to protect the people from government authority.⁵⁴

Solidification of AUPB is outlined in Law Number 30 of 2014 concerning Government Administration (UUAP). Article 1 point 17 defines AUPB in the following limitation: The principle is used as guidance on the use of authority by government officials in issuing a decision and/or actions in government administration. The definition outlined by the law shows that the essence of AUPB serves as guidance for the government. According to Jazim Hamidi, the comprehensive AUPB that guide state officials are built from abstract ethical values. However, some of those principles are enacted in a statute.⁵⁵ Article 10, paragraph (1) of Law concerning Government Administration states that AUPB hold these principles: 1) legal certainty; 2) benefit; 3) impartiality; 4) accuracy; 5) appropriate use of authority; 6) openness; 7) public interest; and 8) good services

Despite the eight principles strictly enacted in the Law, paragraph (2) of Article 10 also opens another possibility to provide other principles in addition to these eight principles. According to some experts, some more

⁵⁴ Soehartono, "Eksistensi Asas-Asas Umum Pemerintahan Yang Baik Sebagai Dasar Pengujian Keabsahan Keputusan Tata Usaha Negara Di Peradilan Tata Usaha Negara," *Yustisia Jurnal Hukum* 1, no. 2 (May 2, 2012): 180–93, <https://doi.org/10.20961/yustisia.v1i2.10644>.

⁵⁵ Solechan Solechan, "Asas-Asas Umum Pemerintahan Yang Baik Dalam Pelayanan Publik," *Administrative Law and Governance Journal* 2, no. 3 (August 1, 2019): 541–57, <https://doi.org/10.14710/alj.v2i3.541-557..>

principles are classified as part of AUPB, including⁵⁶ 1) balance; 2) equality; 3) trust; 4) fair play; 5) responsiveness; 6) personal accountability; and 7) pure objective. Regarding the digitalisation of a land certificate by the government, the AUPB should serve as the main fundament, considering that the policy is performed by an authorised institution. To provide transparent and fair services, AUPB must be implemented in the practice of certificate digitalisation in the coming time.

Synchronisation of the Provision Regarding Authorised Institution in Land Certificate Digitalisation

In conventional land registration, BPT is an authorised body to process the registration assisted by Land Deed Officials (PPAT) as in the provision of Article 5 of Government Regulation Number 24 of 1997 concerning Land Registration as governed in Article 6 paragraph (2). Following the effectuation of the Regulation of Agrarian and Spatial Planning Minister/National Land Agency Number 1 of 2021, principally, there has not been any change in authority regarding land registration processes, and this authority is held by BPN. However, the change in electronic titles from paper-based to electronic is fundamental. Rules and authority follow the regulation concerning electronic land registration.

The authority of BPN, as intended in the provision of Article 3 of Presidential Regulation Number 48 of 2020 concerning the National Land Agency, involves: a) Policy drafting and implementation in land services; b) Policy formulation and implementation regarding land survey and mapping; c) Policy formulation and implementation in determining rights and land registration; d) Policy formulation and implementation in land redistribution, people empowerment, land use, land arrangement relevant to spatial planning, coastal area arrangement, small islands, borders, and certain areas; e) Policy

⁵⁶ Cekli Setya Pratiwi, Fauzi, and Shinta Ayu Purnamawati, *Asas-Asas Umum Pemerintahan Yang Baik (AUPB) Hukum Administrasi Negara* (Jakarta: Pusat Penelitian dan Pengembangan Mahkamah Agung Republik Indonesia, 2016).

formulation and implementation in land procurement and development; d) Policy formulation and implementation in control and management of land ownership and control and land use according to spatial planning principles; e) Policy formulation and implementation in dispute and conflict settlement and prevention and land-related dispute handling; f) Control over exercises of tasks within the domain of BPN; g) Coordination of tasks, training, and administrative support given to all organisational units within the domain of BPN; h) Data and information processing regarding land and sustainable food farming land; i) Research and development in land services; and j) Development of human resources in land-related matters.

The above Article indicates that BPN holds the authority to conduct a land registration program assisted by PPAT that, in this case, are authorised to issue authentic deeds as a requirement in the land registration program. An authentic deed is related to the rights to land, and they serve as the basis for land registration.⁵⁷With the reform in the mechanism of land registration, PPAT and BPN need to make some adjustments to the government policy. Endang Purwaningsih believed that PPAT play a vital role in making authentic deeds prior to land registration to BPN. The new reality in land registration done electronically indicates that updating services given by PPAT by utilising technology is considered crucial.⁵⁸

Ideal Concept of Land Certificate Digitalisation according to AUPB

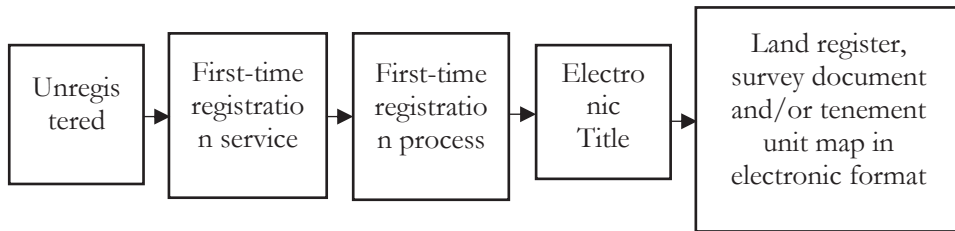
First, First-time Land Registration for Unregistered Land. First-time land registration requires the collection and process of physical data, the proof of rights and bookkeeping, certificate issuance, presentation of physical and

⁵⁷ Muhammad Irsan Sugeng, "Peran Pejabat Pembuat Akta Tanah (PPAT) Dalam Pelaksanaan Pendaftaran Tanah Di Kabupaten Gowa," *Jurnal Yustisiabel* 4, no. 2 (October 30, 2020): 184–97, <https://doi.org/10.32529/yustisiabel.v4i2.738>.

⁵⁸ M. Fahad, "Webinar 10 MKn-UY: 'Peran PPAT Dalam Transformasi Digital Sertifikat Tanah,'" <https://www.yarsi.ac.id/webinar-10-mkn-uy-peran-ppat-dalam-transformasi-digital-sertifikat-tanah>, March 23, 2021.

juridical data, and general list and document storage via an electronic system.⁵⁹ Physical data collection and processing, such as electronic documents, consist of:⁶⁰ a) Land Measurement Picture; b) Land mapping or Spatial Mapping; c) Survey Document, tenement unit map, or Spatial Survey Document; and/or d) Other documents resulting from physical data collection and processing.

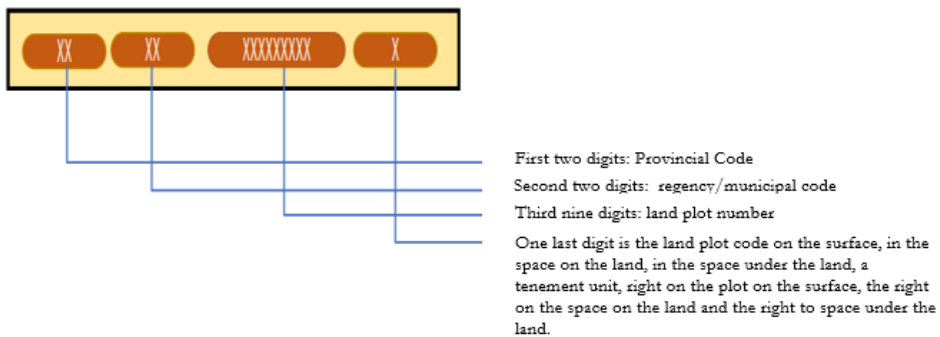
Figure 2. First-Time Electronic Title Issuance



Source: The Author's Analysis.

Each land plot with borders that have been set in either systematic or sporadic registration is registered with a land plot identification number that consists of 14 digits as follows:⁶¹

Figure 3. Land Plot Identification Number



⁵⁹ Article 7 of Minister Regulation 1/2021.

⁶⁰ Article 8 of Minister Regulation 1/2021.

⁶¹ Article 9 of Minister Regulation 1/2021.

Source: Agrarian and Spatial Planning Ministry/National Land Agency, Mitigation of the Implementation of Ministerial Regulation Number 1 of 2021 concerning Electronic Title (Kamparkab.Go.Id)

The identification number of a land plot serves as the referential number required in every land registration stage. If area development takes place in rural areas or sub-districts or districts, the identification number remains the same. The land with the enacted right as the right to land, right to manage, ownership right to a tenement unit, mortgage right, or the right to waqf land is registered via an electronic system, and its document is issued as an electronic title.⁶²

Figure 4. Electronic Land Register and Electronic Title



Source: Agrarian and Spatial Planning Ministry/National Land Agency, Mitigation of the Implementation of Ministerial Regulation Number 1 of 2021 concerning Electronic Title (Kamparkab.Go.Id)

⁶² Article 12, paragraph (1) of Minister Regulation 1/2021.

E-titles stored in order in the database according to the editions showing the history of registration are formatted as an electronic land register.⁶³ As proof of freehold title of the land, the freehold title is given to the right holder/nazhir in the form of (a) Sertipikat-el; and (b) access to Sertipikat-el in the electronic system.⁶⁴

Shift from Analog to Registered Electronic Land Certificate

Replacement of the certificate for registered land with Sertipikat-el will result in the issuance of an electronic title covering the right to land, the right to manage, and the ownership right to a tenement unit or waqf land.⁶⁵ The replacement of the conventional certificate with Sertipikat-el (electronic title) should be preceded by the request for land registration data maintenance services.⁶⁶ The requirements that have to be met to change the physical and juridical data in the land register and certificate match physical and juridical data in an electronic system.⁶⁷ If physical and juridical data do not match, the Head of the Land Office needs to perform validation as follows:⁶⁸ a) Data of right holder; b) Physical data; and c) Juridical data.

⁶³ Article 12, paragraph (2) of Minister Regulation 1/2021.

⁶⁴ Article 12, paragraph (3) of Minister Regulation 1/2021.

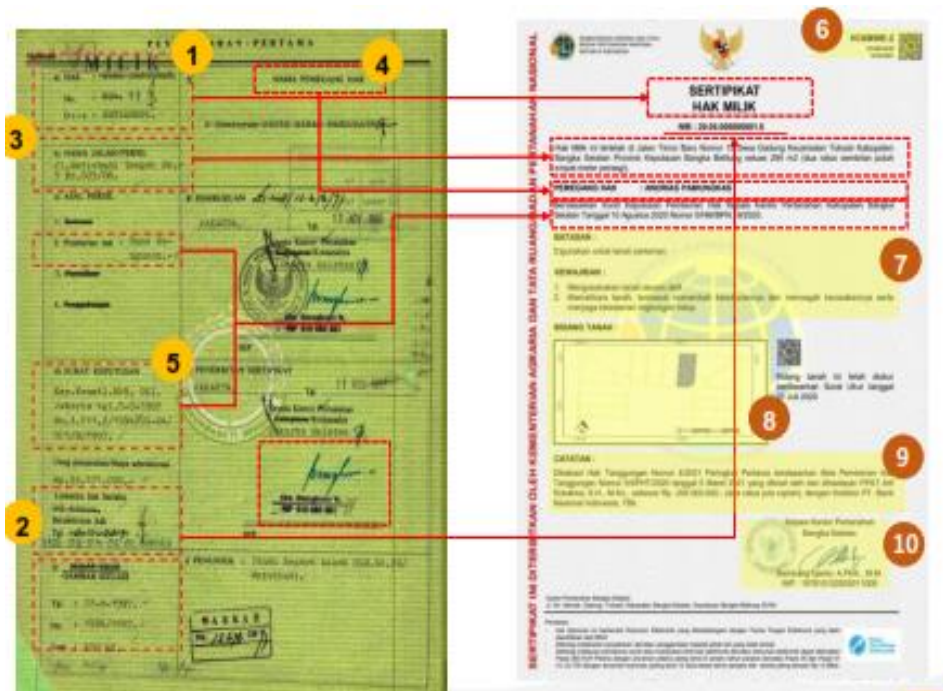
⁶⁵ Article 14, paragraph (1) of Minister Regulation 1/2021.

⁶⁶ Article 14, paragraph (2) of Minister Regulation 1/2021.

⁶⁷ Article 15, paragraph (1) of Minister Regulation 1/2021.

⁶⁸ Article 15, paragraph (2) and (3) of Minister Regulation 1/2021.

Figure 5. Analog Certificate to Electronic Titles



Source: Agrarian and Spatial Planning Ministry/National Land Agency, Mitigation of the Implementation of Ministerial Regulation Number 1 of 2021 concerning Electronic Title (Kamparkab.Go.Id)

Legend: 1) Type of right; 2) NIB; 3) Land plot location; 4) Name of the right holder; 5) Registration; 6) Hashcode, issuance edition, and DI 208; 7) Obligation and Limit (RRR); 8) Plot map; 9) Note; 10) Electronic signature

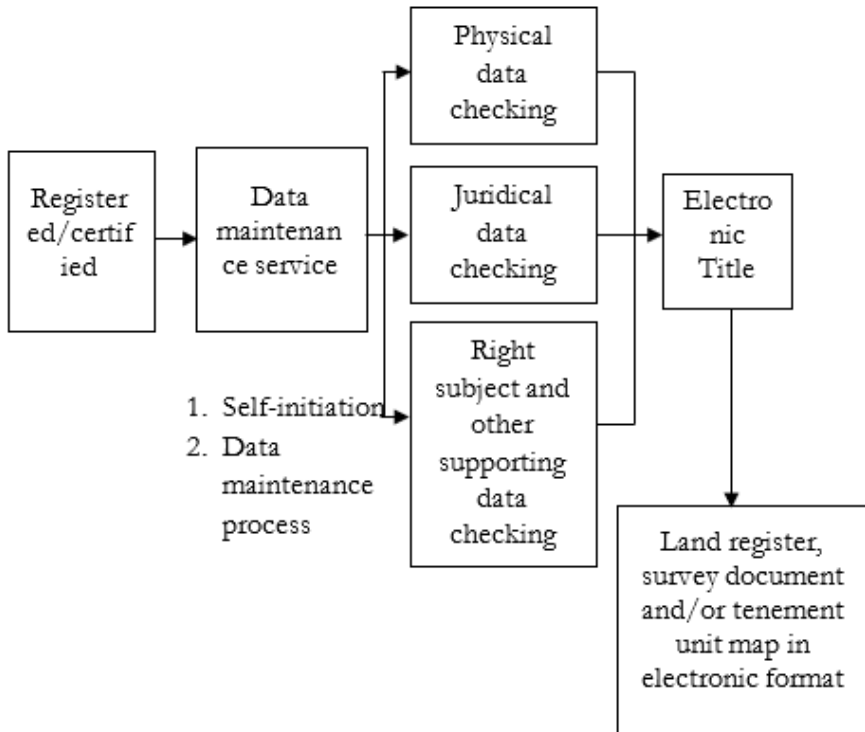
The conventional certificate shifts to Sertipikat-el, including the replacement of the land register, survey document, and/or map of the tenement unit.⁶⁹ This replacement of the certificate is recorded in a land register, survey document, and/or the map of the tenement unit.⁷⁰ The Head of the Land Office will revoke a conventional certificate to be integrated with the land register and

⁶⁹ Article 16, paragraph (1) of Minister Regulation 1/2021.

⁷⁰ Article 16, paragraph (2) of Minister Regulation 1/2021.

stored as a book in the land office.⁷¹ All books will be scanned and stored in the database.⁷² Furthermore, the transfer process from an analogue certificate to an electronic one can be seen in Diagram 2.

Figure 6. Transfer Process from Analog to Electronic Title



Source: The Author's Analysis

However, no such obligation requires a person to change the certificate to an electronic one, but there are some values that the person can enjoy from this replacement. These values involve efficiency: all electronic document services are processed automatically to increase the efficiency in input, process, and output; reducing physical encounters: this will surely minimise the cost of transactions spent on land services and reduce the spread of the pandemic;

⁷¹ Article 16, paragraph (3) of Minister Regulation 1/2021.

⁷² Article 16, paragraph (4) of Minister Regulation 1/2021.

accountability and accessibility: recorded information in all aspects of land registration done electronically will improve the accountability of the certificate and accessibility of information; reducing intervention: all information safety is protected, allowing right holders to detect intervention of other irresponsible parties in the freehold title of the land; and active contribution to the improvement of the investment climate in Indonesia: paperless land document processing will contribute high values in the property registration aspect to improve the ease of doing business in Indonesia.^{73 74}

E-Title System in Rwanda

The rationale for using Rwanda's e-title system as a comparative reference in the study of electronic certificate regulations in Indonesia stems from Rwanda's advanced implementation and successful outcomes in land registration digitalisation. Rwanda's system, highlighted by a centralised National Land Registry and the "zero trip, zero paper" approach, effectively ensures data security, administrative efficiency, and user accessibility—qualities crucial for Indonesia's ambitious land certificate digitalisation under its Job Creation Law. Rwanda's system provides an ideal benchmark for overcoming challenges Indonesia faces, such as coordinating various legal frameworks, ensuring data integrity, and fostering trust among users.

Moreover, Indonesia and Rwanda share relevant parallels that justify the comparison: both have undertaken comprehensive land reforms and measures for modernisation, and both countries face similar administrative and social challenges in shifting from paper-based to digital land records. Rwanda's accomplishments in land registration harmonisation and the provision of fully

⁷³ Direktorat Jenderal Penetapan Hak dan Pendaftaran Tanah and Kementerian ATR/BPN, "Sertipikat Elektronik Menuju Pelayanan Pertanahan Modern Berstandar Dunia," <https://ppid.kamparkab.go.id/public/dokumen/2021/02/6d2a83cfe4f546e402919cd76077e589.pdf>, n.d.

⁷⁴ Ibid.

online services provide Indonesia with actionable insights for creating a secure, efficient, and user-friendly electronic certification system

The Government of Rwanda established the National Land Registry through the extensive Land Tenure Regularization Program in July 2009. This registry stores all land records, encompassing ownership information and other pertinent details beneficial to landowners and anyone needing to make commitments regarding a particular parcel of land. The Land Information Inquiry Portal was established by the National Land Authority of Rwanda to assist landowners, citizens, organisations, and investors in confirming land ownership, verifying land extent, land use and utilisation plans, ascertaining whether a parcel of land is encumbered with a mortgage, registered or not, and whether any transactions are ongoing concerning the land.

Rwanda has launched a new electronic title system for land registration known as e-Title. This system aims to enhance service delivery, address issues related to lost or damaged land rights, and contribute to achieving the "zero trip, zero paper" goal for land transactions. With the new e-Title system, land certificates will be issued promptly upon approval from the Land Registrar. Landowners will receive notifications with links to download and store digital copies of their land rights. This new system will phase out the issuance of physical land certificates and enable other sectors to rely on digital land certificates to serve the community with varying capabilities. The e-Title system will expedite service provision and reduce costs associated with title production. Landowners can access e-Title through the Rwanda land portal at <https://landinformation.lands.rw/>.

With the new system, transactions that do not require processing by a land notary are now fully online and accessible through Irembo. Rwandan citizens, including those residing abroad, can now enjoy automated land services and gain instant access to their land certificates without involving third parties, which in the past necessitated the issuance of power of attorney. Under the new system, landowners no longer pay the Rwf5,000 fee to print their property titles. However, landowners needing a printed copy of their title can submit a special

written request to the National Land Agency and will pay Rwf 5,000 to cover printing costs. The benefits of electronic land certificates will also facilitate access to other services such as financial services, building permits, judicial services, tax exemptions, fertilisers, agricultural services, and other transactions requiring land certificates as supporting documentation. Rwanda's successful National Land Tenure Regularization Program was completed from 2009 to 2013 and included land demarcation, adjudication, land parcel digitisation, and individual land registration. Currently, every land record is stored digitally. This systematic land registration has resulted in over 10.4 million demarcated land parcels and 8.8 million land certificates issued to landowners.

Conclusion

This study analyzes the legal framework for the digitalization of land certificates under Indonesia's Job Creation Omnibus Law, focusing on the synchronization and harmonization of various regulations. The findings reveal that transitioning to electronic titles (e-titles) is a critical step toward modernizing land administration, but its success depends on effectively aligning laws such as the Basic Agrarian Law, the Government Administration Law, and the Electronic Information and Transactions Law. A comparative analysis with Rwanda's e-title system offers valuable insights into secure data management, user trust enhancement, and administrative efficiency. Rwanda's system has successfully reduced issuance costs, improved service accessibility, and implemented a "zero trip, zero paper" initiative for land transactions. To support the implementation of Indonesia's e-title system, the study recommends strengthening coordination between the National Land Agency (BPN) and Land Deed Officials (PPAT), investing in robust cybersecurity infrastructure such as encryption and two-factor authentication, and conducting public awareness campaigns to build understanding and trust in digital land certificates.

For future research, several areas warrant further investigation. Studies should evaluate the practical impact of e-titles on reducing land disputes and

improving service delivery, using empirical data to assess their effectiveness. Exploring the potential integration of blockchain technology into the digital land certificate system would also be valuable, as it could enhance security and transparency. Finally, research should focus on assessing user experiences by conducting surveys and interviews with landowners, legal entities, and government officials to gather insights into the system's functionality and areas that may need improvement.

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