

## Optimization of Land Services Through Adoption of Electronic Land Certificates

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**Abstract.** *This study aims to analyze: 1) The legal certainty of electronic land certificates in order to optimize land services. 2) The impact of the adoption of electronic land certificates on the security of data related to land ownership. This type of research is included in the scope of normative legal research. The approach method in this study is the statute approach. The types and sources of data in this study are secondary data obtained through literature studies. The analysis in this study is prescriptive. The results of the study concluded: 1) The legal certainty of electronic land certificates in order to optimize land services plays an important role in efforts to optimize land services in Indonesia. Electronic land certificates, which have been regulated through various regulations such as the Regulation of the Minister of ATR/BPN Number 3 of 2023 and supported by provisions in the ITE Law and the Job Creation Law, provide a guarantee of legality and legal validity that is equivalent to conventional land certificates. This ensures that transactions or disputes involving electronic documents can be recognized and resolved legally. 2). The impact of the adoption of electronic land certificates on the security of data related to land ownership, namely from the positive side, the technology used, such as encryption and digital signatures, ensures the integrity and confidentiality of land data. This electronic system allows for centralized storage that reduces the risk of physical data loss due to damage or disaster. In addition, the verification process becomes more efficient and accurate, reducing the potential for disputes related to land ownership. However, this adoption also presents challenges, such as the threat of hacking that requires high-level cybersecurity, dependence on reliable technological infrastructure, and the need to educate the public to understand and utilize this system properly. By strengthening the security system and increasing public awareness, electronic land certificates can improve the efficiency of land services while providing better legal protection for community land rights.*

**Keywords:** Certificate; Electronic; Optimization.

## 1. Introduction

Land has a very important function for people's lives, which makes people try to obtain land in various ways, even by encroaching on other people's land. Settlement of land ownership disputes through the courts is a decision that determines who the real certified landowner is from the disputed land.<sup>1</sup> Providing legal certainty for the general public regarding land ownership must be accommodated. This is also related to Article 33 of the 1945 Constitution of the Republic of Indonesia, which should be able to be realized without reducing macro development interests. Government policies in agrarian affairs in Indonesia seem to always experience complex problems where there are often conflicts between general stakeholders and the common people who have not yet created synergy between the two interests.<sup>2</sup>

Land registration is a series of activities carried out by a country/government continuously and regularly to collect certain information or data about a certain plot of land in a certain area, process it, store it and use it for the benefit of the people.<sup>3</sup> A land certificate is a document that proves rights to land, management rights, waqf land, ownership rights to apartment units and mortgage rights, each of which has been recorded in the relevant land book.<sup>4</sup>

The certificate is the final result of land registration and is authentic evidence. The power of the certificate is a guarantee of legal certainty for the certificate holder as perfect evidence as long as no opposing party proves otherwise.<sup>5</sup> Providing legal certainty for landowners' rights is very important. Legal certainty of land ownership begins with a legal product in the form of a land ownership certificate issued by the National Land Agency. Land registration is carried out to protect the rights of the community to their land ownership.<sup>6</sup> BPN as the party organizing land registration guarantees the accuracy of land data, both physical and legal, on the land title certificate, and provides legal certainty by implementing the latest principles, so that the

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<sup>1</sup>Syarifah Lia & Lathifah Hanim, 2017, Legal Certainty in Settling Disputes Emerging from Overlapping Certificates of Ownership Rights (SHM) on Land (Case Study at the Land/Agrarian and Spatial Planning Office of Pontianak City), *Jurnal Akta*, Vol. 4. No. 1, p.35

<sup>2</sup>Ryan Alfi Syahri, Legal Protection of Land Ownership Rights, *Legal Opinion Journal of Law*, Edition 5, Volume 2, 2014, p.2.

<sup>3</sup>Dian Aries Mujiburohman, 2018, Potential Problems of Complete Systematic Land Registration (PTSL), *BHUMI: Agrarian and Land Journal*, Volume 4, Number 1, p.50

<sup>4</sup>Agus Salim, Settlement of Legal Disputes against Ownership Certificate Holders with the Issuance of Duplicate Certificates, *USM Law Review Journal*, Volume 2, Number 2 of 2019, p. 183

<sup>5</sup>Adrian Sutedi, 2011, *Land Rights Certificate*, Sinar Grafika, Jakarta, p. 1.

<sup>6</sup>Putri, CA, & Gunarto, 2018, Effectiveness of Certificate Checks on Preventing Land Disputes in the Land Rights Transfer Process, *Jurnal Akta*, Vol. 5, Number (1), p. 268.

community will feel safe because the community places its trust in BPN as the government that provides guarantees of certainty of land rights.<sup>7</sup>

One of the digital transformation programs that is a flagship program at the Ministry of ATR/BPN is electronic certificates. Land title certificates that were previously carried out conventionally are now transformed into electronic ones. An important achievement in the modernization of the land registration system is shown by ensuring public access to online land registration and implementing infrastructure for the electronic registration process. Electronic land certificates are issued through the National Land Agency Administration System operated by the Ministry of ATR/BPN. Electronic land certificates have the advantage that they can be accessed online and can be easily reprinted. To obtain an electronic land certificate, landowners must submit an application to the local Land Office and meet the requirements set by the Ministry of ATR/BPN.<sup>8</sup>

Electronic land certificates aim to facilitate and accelerate the process of managing land certificates and minimize the risk of loss and forgery of land certificates. The implementation of the Regulation of the Minister of ATR/Head of BPN Number 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities directly affects registered or certified land. The adoption of electronic land certificates has the potential to increase accessibility to land information for the public, including landowners, investors, and other interested parties. Through an electronic system, information can be accessed quickly and easily from anywhere. Optimizing land services through the adoption of electronic land certificates is important to increase the efficiency, accessibility, and reliability of the land system in supporting sustainable development and economic growth.

## **2. Research methods**

This type of research is normative legal research. The approach method in this research is the statute approach. The type and source of data in this research are secondary data obtained through literature studies. The analysis in this research is prescriptive.

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<sup>7</sup>Ni Made Rian Ayu Sumardani & I Nyoman Bagiastra, 2021, Legal Responsibility of the National Land Agency Regarding the Inconsistency of the Results of Electronic Certificate Checks. *Acta Comitas: Journal of Notary Law*, Vol. 06 Number 02, p. 224

<sup>8</sup>Kurnia Rheza, 2023, Challenges of Implementing Electronic Land Certificates at the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency of the Republic of Indonesia, *Journal of Notary Science*, Volume 4 Issue 2 p.132

### **3. Results and Discussion**

#### **3.1. Legal Certainty of Electronic Land Certificates in the Framework of Optimizing Land Services**

Optimizing land services is an effort to improve the efficiency, effectiveness, and quality of services in land management. This is important to ensure that the public receives transparent, fast, and accurate services related to land rights, measurement, certification, and dispute resolution. Optimizing land administration in Indonesia is a long journey that requires commitment and hard work from various parties. The challenges faced in this process, ranging from land deformation issues, the need for periodic data updates, to accelerating land registration, require comprehensive and integrated solutions.

The development of technology that is present also ultimately requires both individuals and organizations to carry out transformation, one of which is digital transformation. Digital transformation can be defined as a process that aims to improve an organization by bringing significant changes in its characteristics through the introduction of information technology, computers, communications and connectivity.<sup>9</sup>Digital transformation is generally defined as a change that affects digital technology used in all aspects of human life. Digital transformation is also a form of strategy carried out by an organization in order to survive amidst threats and challenges due to changes caused by increasingly developing technological developments. Digital transformation is the radical use of digital technology to improve company performance.<sup>10</sup>

Land title certificates that were previously carried out conventionally are now transformed into electronic ones. An important achievement in the modernization of the land registration system is shown by ensuring public access to online land registration and implementing infrastructure for the electronic registration process. The transition from conventional certificates to electronic land certificates is intended to reduce the number of property disputes, disputes, and lawsuits regarding land.<sup>11</sup>

In essence, this regulation is intended to meet the needs of the community in accordance with current developments. The presence of ATR/BPN Regulation Number 3 of 2023 is expected to direct publication in Indonesia, from a publication framework that tends to be negative to a publication framework that

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<sup>9</sup> I. Putri, 2021, Educational Technology and Digital Transformation During the COVID-19 Pandemic, *Jurnal ICT: Information Communication & Technology*, Vol. 20, No. 1, p. 45.

<sup>10</sup>Kurnia Reza, 2023, Challenges in Implementing Electronic Land Certificates at the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency of the Republic of Indonesia, *Journal of Notary Science*, Volume 4 Issue 2, p.131

<sup>11</sup>Mudakir Iskandar Syah, 2019, *Guide to Managing Certificates and Resolving Land Disputes*, Bhuana Ilmu Populer, Jakarta, p. 30.

is positive. This is because negative publication with a positive tendency is seen as unable to guarantee legal certainty and has not succeeded in reducing the number of disputes in the land sector.<sup>12</sup>

Electronic certificates are intended to guarantee data validation for their users because certificates in electronic form are able to directly identify the owner of the certificate. Electronic certificates also provide a guarantee of data integrity through checking whether there is a transformation in the document that was signed and cannot be denied because it is proven directly at the time of signing, and can deny falsification of data integrity. Hackers will be subject to punishment in accordance with Article 32 paragraph (2) of Law Number 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Information and Electronic Transactions which states: "Any person intentionally and without rights or against the law in any way moves or transfers Electronic Information and/or electronic documents to the electronic system of another person who is not entitled".

So in the implementation of this electronic certificate, the Ministry of ATR/BPN is the authority for all forms of responsibility for registering Electronic Certificates. It is hoped that the implementation of electronic certificates will make it easier for land office officers in the land registration process, both for first-time land registration or maintaining land data. The use of high technology in the implementation of electronic certificates is expected to reduce the time needed for land registration and prevent the risk of damage to the original land books stored by the land office due to age or other factors, because in the Regulation of the Minister of ATR/BPN No. 3 of 2023 concerning Electronic Certificates in Article 1 paragraph (14) that "Database is a collection of Data that is arranged systematically and integrated and stored in a large memory and can be accessed by one or more users from different terminals" and Article 4 paragraph (3) "Data, Electronic Information, and Electronic Documents are stored in the Electronic System Database".

Before the enactment of the Regulation of the Minister of ATR/BPN No. 3 of 2023, Indonesian land registration was still carried out manually by applicants by sending PPAT data to the local Regency/City Land Office. Along with the development of the era of land registration in the conventional way, it is felt that there needs to be a change, so that the latest guidelines regarding electronic land registration which will be given the results in the form of an electronic certificate.<sup>13</sup>Not only is land registration carried out electronically, data

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<sup>12</sup>Reza Andriansyah, 2024, Urgency of Issuance of Electronic Land Certificate Documents after Regulation of the Minister of ATR/BPN Number 3 of 2023, USM Law Review Journal, Vol 7 No 2, P. 843

<sup>13</sup>M Ilham Dwi Putranto and Amin Mansyur, 2023, Urgency of Electronic Land Certificate Implementation, Repertorium: Scientific Journal of Notary Law, volume 12, no. 1, p.1

maintenance, both physical data and legal data, is also carried out in a manner which is stated in Article 29 paragraph (1) of Ministerial Regulation No. 3 of 2023 which stipulates that "Recording of maintenance of Land Registration Data is carried out by recording changes to Physical Data and/or Legal Data on BT-el for management rights, land rights, waqf land, ownership rights to apartment units and mortgage rights in the form of a new Data Block, the ratification of which is carried out simultaneously on the e-Certificate."

Digitization of land certificate registration is a national agrarian effort to remain aware of the increasingly rapid progress of the times, this matter is carried out as an effort to survive and prevent difficulties related to land issues.<sup>14</sup>In using digital-based services, the aim is to achieve cost and time efficiency so that services using manual or paper will be reduced.

Legal certainty over land is not only important for the protection of individual and community rights, but also essential for sustainable economic and social development. With optimal land administration, land conflicts and disputes can be minimized, investment can be increased, and the rights of communities, including indigenous communities, can be better protected. Through close cooperation, continuous policy reform, and the use of technology, Indonesia can achieve a land administration system that is fair, efficient, and provides legal certainty for all.<sup>15</sup>Legal certainty of electronic land certificates is a very important aspect in supporting the optimization of land services. Optimization of land services includes efficiency and speed, transparency and accuracy, accessibility and supports agrarian reform. Legal certainty in efforts to optimize land services is achieved through:

#### 1) Legal Foundation

Electronic land certificates have legitimacy based on applicable regulations. Article 6 of the Regulation of the Minister of ATR/Head of BPN No. 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities states that electronic documents issued and/or their printouts are valid legal evidence. This emphasizes that electronic certificates have the same legal force as physical certificates.

#### 2) Recognition in the ITE Law

Electronic documents are recognized by Law Number 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Electronic

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<sup>14</sup>Effendi Perangin, 1994, *Indonesian Agrarian Law, A Study from the Perspective of a Legal Practitioner*, Raja Grafindo, Jakarta, p. 1

<sup>15</sup>Vallensia Mizatul Khair, 2024, *Optimizing Land Administration in Indonesia: Challenges and Strategies Towards Legal Certainty*, *Journal of Public Administration and Management Studies*, Volume 2 Number 2, p.61

Information and Transactions as valid legal evidence. This provides an additional legal framework that strengthens the validity of electronic land certificates.

### 3) Security and Integrity

Electronic certificates use technologies such as digital signatures and blockchain systems to prevent forgery, manipulation or loss of data. This ensures that land certificates are not only legally valid but also technically secure.

Reviewed from the theory of legal certainty, with the enactment of regulations on electronic land certificates, there are new regulations regarding evidence in the form of electronic documents. As long as the electronic certificate comes from an electronic system that operates properly, meaning there is an identity code that explains the details of land ownership rights, the judge must accept the electronic evidence in court. Article 6 of the Regulation of the Minister of ATR/Head of BPN Number 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities, expressly states the recognition of electronic certificates as valid evidence in court. This is a new breakthrough in the development of evidence in Indonesian evidentiary law. Thus, this evidence can be used as a force for resolving land disputes in court. Electronic information evidence and electronic documents are very risky for data manipulation. The authenticity of this electronic certificate evidence is very important. The printed result of the electronic certificate containing electronic information on the physical and legal data of the registered land area and in the form of an electronic document is an extension of documentary evidence and is included in the extension of indicative evidence as regulated in Article 184 paragraph (1) of the Criminal Procedure Code.

Based on Gustav Radbruch's opinion above, the legal certainty of a fact must be formulated in a clear manner so as to avoid errors in interpretation. This is related to the transition of written data to electronic data which has been regulated in advance by Government Regulation Number 18 of 2021 that land registration can be carried out electronically which was later amended by the Regulation of the Minister of ATR/Head of BPN Number 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities, that electronic certificates are open evidence and can be used in court. This can then be juxtaposed with the contents of Article 137 HIR which states: "The parties can demand to see the opposing party's statements and vice versa, which letters are submitted to the Judge for that purpose". To maintain the principle of openness of evidence in court, the provisions of Article 137 HIR must also be applied to electronic certificates when the opposing party asks to be seen.

Legal certainty Electronic certificates in the form of electronic documents can be categorized as electronic evidence that has the same evidentiary power as written/lettered evidence made on paper and its printouts as a form of valid



evidence. This is a reference to the legitimacy of the position of electronic certificates to be used as evidence in court as long as the data stored in the electronic system is not changed (its integrity is guaranteed) according to that in the land book.

The position of electronic information and/or electronic documents has basically been regulated in Law Number 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions from Article 1 Number 4, Article 5 Paragraph (3), Article 6 and Article 7 electronic documents can be categorized as formal and material requirements of electronic documents in order to have evidentiary value, namely first, in the form of electronic information that is created, forwarded, sent, received or stored, which can be seen, displayed and/or heard via a computer or electronic system, including writing, sound, images and so on that have meaning or significance or can be understood by people who are able to understand them. The second value, is declared valid if it uses or comes from an electronic system in accordance with the provisions stipulated in the Law. The third evidentiary value is considered valid if the information contained therein can be accessed, displayed, guaranteed its integrity, and can be accounted for so that it explains a situation.<sup>16</sup>

### **3.2. The Impact of Adopting Electronic Land Certificates on Data Security Related to Land Ownership**

Government Regulation Number 24 of 1997 is a refinement of the regulations so that many additional articles are added to provide legal certainty regarding land ownership.<sup>17</sup> One of the objectives of land registration as applied in Article 3 of Government Regulation Number 24 of 1997 in conjunction with Government Regulation Number 18 of 2021 concerning Management Rights, Land Rights, Apartment Units and Land Registration is to provide legal certainty and legal protection to rights holders of a plot of land, apartment units and other registered rights so that they can easily and can prove themselves as the holders of the rights concerned and the holders of the rights concerned are given a certificate of land rights as legal certainty and legal protection.<sup>18</sup>

Electronic land certificates are one of the latest developments in the land administration system in Indonesia. They are land documents that are generated electronically and stored in a computer system. In recent years, the Indonesian

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<sup>16</sup>Nur Hidayani, 2021, Implementation of Electronic Certificates as a Guarantee of Legal Certainty of Land Ownership Rights in Indonesia, SASI: International Accredited Journal, Volume 27 Number 3, p. 342

<sup>17</sup>Supriyadi, 2012, Agrarian Law, Sinar Grafika, Jakarta, p. 153

<sup>18</sup>Risti Dwi Ramasari, Shella Aniscasary, 2022, Legal Review of the Legal Force of Electronic Land Certificates Based on the Regulation of the Minister of Agrarian Affairs and Spatial Planning Number 1 of 2021, Journal of Health Law and Ethics, Vol 2, No 1, p. 4



government has launched land modernization programs, one of which is the introduction of electronic land certificates. This is expected to simplify the land administration process, reduce bureaucracy, and increase legal certainty for landowners. Electronic documents have advantages in their use because they are flexible, easy to change, copy, distribute, and store. The legal validity of electronic documents has been regulated in various laws and regulations, including their use as evidence in court proceedings. In some special cases, electronic documents can be confidential, accessed only by certain authorized parties. Electronic land certificates have the potential to reduce land conflicts, avoid land mafia practices, and overcome overlapping certificates.<sup>19</sup>

The adoption of electronic land certificates has a significant impact on the security of data related to land ownership, both in terms of positive aspects and challenges that must be overcome. Article 1 Paragraph 13 of the Regulation of the Minister of ATR/Head of BPN No. 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities, explains that data is information about something including but not limited to writing, sound, images, maps, designs, photos, electronic data interchange (EDI), electronic mails (electronic mails, telegrams, telex, telecopy or the like, letters, signs, numbers, access codes, symbols, or perforations). The following are the impacts of the adoption of electronic land certificates on the security of data related to land ownership:

- 1) The positive impact on data security is increasing data security with digital technology, preventing document forgery, transparency and data access and integration with other systems.
- 2) The impact of challenges on data security is the risk of cyber attacks, digital infrastructure vulnerabilities, lack of digital literacy, and data privacy.

Steps to overcome the challenges are Improving system security, regulations and policies, digital education and literacy, and creating a backup system. Adopting electronic land certificates can improve data security and land administration efficiency, but also presents challenges related to cyber attacks and privacy protection. To ensure success, investment in technological infrastructure, adequate regulations, and public education are needed so that this adoption has a maximum positive impact.

Examined from the legal protection theory of Philipus M. Hadjon, legal protection is the protection of dignity and honor, as well as recognition of human rights owned by legal subjects based on legal provisions from

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<sup>19</sup>Gandi Assidiqih, Indri Fogar Susilowati, 2024, Legal Review of Electronic Land Certificates as Evidence of Land Ownership in Indonesia, *Lex Novum: Journal of Law*, Surabaya State University, volume 1, number 1, page 58

arbitrariness.<sup>20</sup> Preventive legal protection, namely a form of legal protection where the people are given the opportunity to submit objections or opinions before a government decision gets a definitive form. According to the author, electronic certificates also provide preventive protection, because electronic land certificates as proof of electronic ownership are recognized by the Electronic Information and Transactions Law (UU ITE) especially those regulated in Article 6 of the Electronic Information and Transactions Law (UU ITE). Law of the Republic of Indonesia Number 11 of 2008 concerning ITE is a manifestation of the responsibility that must be borne by the state and has been revised by Law No. 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions, providing maximum protection for all activities that use information and communication technology, so that they are legally protected from possible crimes and manipulation of technology.<sup>21</sup>

In terms of validity, there is no problem, especially since it has been strengthened in Article 5 of the Regulation of the Minister of ATR/Head of BPN No. 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities. For security, the Ministry of ATR/BPN has prepared anticipation of data leaks through cooperation with BSSN. Electronic land certificates will implement electronic signatures and use cryptographic encryption technology guaranteed by the National Cyber and Crypto Agency (BSSN).<sup>22</sup>

Philipus M. Hadjon formulated the principle of legal protection for the Indonesian people by combining the ideology of Pancasila with the concept of legal protection for western people. According to Philipus M. Hadjon, legal protection for the people includes two things, namely:<sup>23</sup>

a. Preventive Legal Protection

Preventive protection focuses on efforts to prevent potential violations of the law or community rights before they occur. In the context of electronic land certificates, the government has prepared a solid legal basis through various regulations. Regulation of the Minister of ATR/BPN Number 3 of 2023, for example, stipulates that electronic documents managed in the electronic land system have the same legal force as physical documents. This regulation creates legal certainty for the community that land certificates in electronic format can

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<sup>20</sup>Philipus M. Hadjon, 1987, Protection for the People in Indonesia, Bina Ilmu, Surabaya, p. 2.

<sup>21</sup>Made Restu Hawiwie, I Nyoman Putu Budiarta & Ni Komang Arini Styawati, Legal Review of Land Sale and Purchase Transactions Through Internet Banking, Journal of Legal Preferences, Vol. 2, No. 2 – July 2021, p. 402.

<sup>22</sup>Suci Febrianti, Legal Protection for Electronic Land Certificate Holders, Indonesian Notary Journal, Vol. 3 No. 3 of 2021, p. 206.

<sup>23</sup>Ibid., p. 4.

be used legally in transactions and legal evidence.

Preventive arrangements also include the application of high-security technology in the electronic land system. PP Number 71 of 2019 concerning the Electronic-Based Government System (SPBE) requires data management to be carried out with the principles of confidentiality, integrity, and availability. In practice, electronic land certificates use technologies such as digital signatures and data encryption to protect against manipulation or unauthorized access. With this system, community land ownership data is better protected from threats such as hacking, forgery, or loss.

#### b. Repressive Legal Protection

Repressive protection focuses on handling legal violations that have occurred. In this case, the community is given various dispute resolution mechanisms, both through administrative and judicial channels. When a land ownership dispute occurs, an electronic certificate is recognized as valid evidence based on Law Number 1 of 2024 concerning the Second Amendment to the ITE Law. Article 5 of this law states that electronic documents, including printouts, have the same legal force as physical documents. With this recognition, landowners can prove their rights in court, even though their certificates are in electronic form. In addition, repressive protection also includes imposing sanctions on parties who misuse electronic data or land management systems. For example, Articles 30 and 32 of the ITE Law stipulate that illegal access to electronic systems can be subject to criminal sanctions. This sanction provides a deterrent effect on parties who intend to commit violations, such as data theft or manipulation of electronic documents.

The implementation of preventive and repressive legal protection is very important in the context of land certificate digitalization. Digitalization brings great benefits, such as efficiency, ease of access, and transparency in land data management. However, this innovation also opens up new potential risks, such as cybercrime or technical errors that can affect people's rights. Philipus M. Hadjon's theory provides a framework to ensure that people's rights remain protected, both before and after violations occur.

## **4. Conclusion**

The legal certainty of electronic land certificates in order to optimize land services plays an important role in efforts to optimize land services in Indonesia. Electronic land certificates, which have been regulated through various regulations such as the Regulation of the Minister of ATR/BPN Number 3 of 2023 and supported by provisions in the ITE Law and the Job Creation Law, provide a guarantee of legality and legal validity that is equivalent to conventional land certificates. This ensures that transactions or disputes involving electronic documents can be recognized and resolved legally. Electronic land certificates

support the efficiency of land administration processes, facilitate public access to land ownership information, and increase transparency in land governance. This system also strengthens protection of land ownership through technologies such as digital signatures and encryption, which minimize the risk of forgery or loss of documents. With the presence of electronic land certificates, land services in Indonesia can be more responsive, modern, and inclusive. This digitalization not only provides stronger legal certainty, but also improves the quality of public services, supports economic development, and encourages public trust in the legal system and state administration. The impact of adopting electronic land certificates on data security related to land ownership is that on the positive side, the technology used, such as encryption and digital signatures, ensures the integrity and confidentiality of land data. This electronic system allows for centralized storage that reduces the risk of physical data loss due to damage or disaster. In addition, the verification process becomes more efficient and accurate, reducing the potential for disputes related to land ownership. However, this adoption also presents challenges, such as the threat of hacking that requires high-level cyber security, dependence on reliable technological infrastructure, and the need for public education to understand and utilize this system properly. By strengthening the security system and increasing public awareness, electronic land certificates can improve the efficiency of land services while providing better legal protection for community land rights.

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