

The Digitalization of Electronic Land Certificate Service through the PECEL POIN Innovation in Madiun Regency

Thifalen Fairuzia Nafia Dewi¹⁾, Riska Andi Fitrono²⁾ & Anti Mayastuti³⁾

¹⁾Faculty of Law, Universitas Sebelas Maret Surakarta, Indonesia, E-mail: thifalenfairuzia02@gmail.com

²⁾Faculty of Law, Universitas Sebelas Maret Surakarta, Indonesia, E-mail: riskaandi@staff.uns.ac.id

³⁾Faculty of Law, Universitas Sebelas Maret Surakarta, Indonesia, E-mail: antimayastuti@staff.uns.ac.id

Abstract. *Digital transformation in land services has encouraged the implementation of electronic certificates to improve the effectiveness, efficiency, and transparency of land administration. To support this policy, the Madiun Regency Land Office developed the PECEL POIN innovation (Pelayanan Cepat Elektronik Ploting Peta dan Informasi), a digital-based service integrated with electronic land registration. This research aims to analyze the implementation of PECEL POIN in supporting electronic certificate services and to formulate strategies for its optimization. An empirical legal research method with a qualitative approach was employed, with data collected through interviews, observation, documentation, and questionnaires distributed to public users of the service. The results show that PECEL POIN has contributed to accelerating land data validation, integrating services across sections, and expanding public access to digital-based land services. However, implementation remains suboptimal due to limited socialization, low public utilization, weak public understanding of electronic certificates, and service quality that has not yet fully met expectations. Optimization strategies proposed include developing an integrated web-based service, intensifying public socialization and education, strengthening service quality and human resources, and accelerating land parcel measurement and mapping. These strategies are expected to support the digital transformation of land services and the broader implementation of electronic certificates in Madiun Regency.*

Keywords: *Electronic Certificate; Innovation; Land Digitalization; PECEL POIN.*

1. Introduction

Land is one of the agrarian resources that holds a strategic position and cannot be separated from human life. The existence of land not only functions as a means of fulfilling life's needs, but also carries important social, economic, and legal value. The legal relationship between a person and a parcel of land can be formed in various ways, including the transfer of rights through inheritance or through a lawful legal act such as a sale and purchase in accordance with the provisions of statutory regulations. In addition, the value and utilization of land are also influenced by various factors, such as population growth, the economic condition of society, the need for housing, and development demands. The limited area of land, which is not proportional to the increase in population, causes land prices to tend to rise and has the potential to give rise to various problems in its control and utilization. (Yoyon & Darusman, 2023: 38-56) The

digital era has driven the modernization of land administration through the implementation of information-technology-based services. One form of this transformation is the administration of electronic land registration, in which the process of managing data and issuing land documents is carried out digitally. With this system, land registration is no longer realized in the form of a conventional certificate, but rather in digital form, namely an electronic certificate that has legal force in accordance with the provisions of statutory regulations. (Setyawahyuningtyas, 2025: 286-297)

Land certificate ownership plays a strategic role in providing legal protection to Indonesian citizens with respect to their land rights. Furthermore, such certification represents a concrete manifestation of the objectives underlying the enactment of the Basic Agrarian Law (Undang-Undang Pokok Agraria/UUPA), namely to establish the foundations for achieving legal certainty in matters of land tenure (Rezeki Aldila Rajab et al., 2020: 642-654). The regulation concerning electronic certificates in Indonesia is set out in the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 1 of 2021 concerning Electronic Certificates in Land Registration. The emergence of this regulation represents one form of the government's commitment to promoting digital transformation in the land sector in order to achieve services that are more effective, efficient, and transparent. However, in practice, the electronic certificate continues to generate both support and opposition from the public, particularly with regard to its legal force, the protection of certificate holders' rights, and the mechanism for the transfer of land rights. In addition, public acceptance of electronic certificates remains a challenge, since most of the public has long been accustomed to using conventional certificates as proof of ownership that can be stored and shown directly. This condition gives rise to the need for further study of the effectiveness of implementing electronic certificates within the national land legal system. (Putra & Winanti, 2024: 835-852)

Efforts to digitalize land services in Indonesia continue to be carried out by the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), including through the implementation of electronic certificates regulated under Regulation of the Minister of ATR/BPN Number 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities. This policy is part of the digital transformation of land services aimed at improving efficiency, data security, and the quality of public service. Electronic certificates are considered to have a better security system because they are supported by authentication technology and integrated digital data storage. Nevertheless, implementation of this policy still faces various challenges, particularly regarding public acceptance of the change in certificate form from physical to electronic. This condition arises because part of the population has only recently obtained land certificates through the Complete Systematic Land Registration Program (Pendaftaran Tanah Sistematis Lengkap, PTSL), giving rise to doubt and concern regarding the mechanism for converting conventional certificates into electronic certificates. In addition, low digital literacy and a lack of public understanding of the benefits and security guarantees of electronic certificates also affect the level of acceptance of this land digitalization policy.

In order to support the acceleration of digital transformation in land services, the Madiun Regency Land Office developed the PECEL POIN innovation (Pelayanan Cepat Elektronik Plotting Peta dan Informasi / Rapid Electronic Map Plotting and Information Service) as one of the digital-based service strategies that supports the implementation of electronic

certificates. This innovation is designed to provide the public with easier access to land services, accelerate the administrative process, and improve service effectiveness through the use of information technology. The presence of the PECEL POIN innovation is important given that various obstacles are still found in the implementation of electronic certificates, particularly relating to low public digital literacy, limited understanding of the benefits of electronic certificates, and the need for services that are more accessible and responsive.

The PECEL POIN innovation developed by the Madiun Regency Land Office is one of the digital-based land service innovations that has distinctive characteristics and has not yet been widely implemented at other Land Offices in East Java Province. The existence of this innovation makes the Madiun Regency Land Office one of the reference points in the development of digital-based land services. Nevertheless, implementation of this innovation still faces various challenges, particularly relating to the relatively varied level of public literacy and public understanding of the mechanisms and benefits of the services provided through PECEL POIN. This condition underscores the importance of this research in identifying the various obstacles faced in implementing PECEL POIN, as well as analyzing the extent to which this innovation can be accepted and utilized by the public in supporting electronic certificate services. This research therefore aims to analyze the implementation of the PECEL POIN innovation at the Madiun Regency Land Office and to examine the factors that support and hinder its success in improving the effectiveness of digital-based land services.

Previous research on electronic certificates has generally focused on normative aspects, such as the legal standing and evidentiary force of electronic certificates within the land legal system. Putra and Winanti (2024) examined the legal force of electronic certificates in the land registration system, while Rajab and Turisno (2020) highlighted the aspect of legal protection for electronic certificate holders. Nevertheless, these studies have not addressed the implementation of digital-based public service innovation as an instrument supporting the application of electronic certificates at the Land Office level. There thus remains a research gap concerning how public service innovation can support the success of digital transformation in land services. The novelty of this research lies in its analysis of the implementation of the PECEL POIN innovation as a digital-based public service instrument supporting the application of electronic certificates at the Madiun Regency Land Office, a subject that has not been widely examined in prior research. Identifying the various obstacles and implementation strategies for the PECEL POIN innovation is therefore important in order to determine the extent to which this innovation is able to support the success of digital transformation in land services.

Normatively (*das sollen*), Regulation of the Minister of ATR/BPN Number 1 of 2021 and Number 3 of 2023 mandate the full implementation of electronic certificates as part of the digital transformation of land services. In practice (*das sein*), however, the low level of public understanding, limited digital literacy, and the persistent gap between the number of Electronic Land Books (BTCL) and Electronic Certificates (SERTEL) at the Madiun Regency Land Office indicate that this normative target has not yet been fully realized. This gap between regulation and implementation forms the central legal problem examined in this research.

Based on the foregoing background, this study aims to analyze the implementation of the PECEL POIN innovation as an effort to digitalize electronic land certificate services at the Madiun Regency Land Office, and to examine its contribution to enhancing the effectiveness and quality of land services. This study is considered significant given the limited number of prior studies addressing PECEL POIN as a digital-based land service innovation, particularly within the context of the Madiun Regency Land Office. Accordingly, this research is expected to contribute theoretically to the development of legal studies on public service innovation in the land sector, and practically to support

2. Research Methods

Research, or scholarly work, is an activity of obtaining and elaborating the steps taken to test a fact, carried out using a research method (Hadi S, 2000). This research constitutes empirical legal research, which positions law as a social phenomenon that can be observed directly in community life. According to Soerjono Soekanto, empirical legal research is conducted by examining primary data obtained from the field in order to understand how law operates, is applied, and influences the behavior of society. This research is therefore directed at analyzing the implementation of law based on the empirical facts found in the field (Soekanto, 1986: 51). The normative-empirical legal research approach is used to examine law not merely as a set of norms set out in statutory regulations (law in books), but also as a reality applied within community life (law in action). This approach enables the researcher to analyze the conformity between applicable legal provisions and their implementation in practice. Law is thus understood not merely as a set of normative rules, but also as an instrument that directs and regulates the behavior of society in order to realize order, justice, and legal certainty in social life. (Mezak, 2006: 85-97)

This research employs a qualitative approach, which is directed at understanding social and legal phenomena based on the perspectives and experiences of the parties involved, rather than merely measuring them numerically. This approach was selected to allow an in-depth exploration of how the PECEL POIN innovation is perceived, understood, and utilized by both the implementing officials and the public as service users, as well as the obstacles encountered in its implementation.

The data used in this research consist of primary and secondary data. Primary data were obtained directly through interviews with officials of the Madiun Regency Land Office involved in the implementation of the PECEL POIN innovation, field observation of the service process at the PECEL POIN counter, and questionnaires distributed to 53 respondents from among the public who had accessed land services at the Madiun Regency Land Office. Secondary data were obtained through documentation studies of statutory regulations, service recapitulation data, official reports, and relevant legal literature. The data collection technique thus combines interviews, observation, documentation, and the distribution of questionnaires. The data obtained were subsequently analyzed using a qualitative descriptive-analytical technique, in which the empirical findings from the field are described, systematized, and analyzed in relation to the applicable legal norms, in order to draw conclusions concerning the conformity between regulation (*das sollen*) and practice (*das sein*) in the implementation of electronic certificate services.

3. Results and Discussion

3.1. Implementation of the PECEL POIN Innovation in Supporting Electronic Certificate Services

This section addresses the first research question by analyzing how the PECEL POIN innovation has been implemented in supporting electronic certificate services at the Madiun Regency Land Office. Land registration in Indonesia is administered by the government through the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN). The implementation of land registration is carried out by the Land Office under the authority of the Head of the Land Office, supported by the Land Deed Official (PPAT) as well as related officials and technical staff involved in the administration of land affairs. Indonesia's land registration publication system adheres to a negative publication system containing elements of positive registration. Under this system, the juridical data contained in the land book and certificate does not receive an absolute guarantee from the state. Consequently, any other party who believes they hold a stronger right over a given parcel of land may still file a claim against the registered certificate holder. A land certificate therefore holds the position of strong evidence regarding the physical and juridical data it contains, but is not absolute in nature and may still be rebutted through evidence to the contrary (Safitri et al., 2020: 788-802).

Land registration in Indonesia is realized through the issuance of a certificate of rights to land as proof of ownership for the rights holder. Nevertheless, the certificate is not absolute in nature, since Indonesia's land legal system allows for the cancellation of a certificate if it is proven to contain a legal defect, whether administrative or juridical. The certificate is thus a document that provides evidence of land ownership while simultaneously serving as a means of legal protection for the rights holder (Ghaniyyu et al., 2022: 172-187). Article 4 paragraph (1) of the Basic Agrarian Law affirms that land constitutes a part of the earth's surface that may be controlled and utilized by a legal subject. This concept was expanded upon by Urip Santoso, who stated that the notion of land covers not only the earth's surface in land areas, but also the part of the earth's surface beneath bodies of water, together with the space above and below it, insofar as it relates to the utilization of the land. Land is thus understood as an object possessing physical and juridical dimensions broader than merely the surface of the earth. (Santoso, 2016: 52)

Land law is the entirety of legal provisions, whether written or unwritten, all of which share the same object of regulation, namely rights of control over land as legal institutions and as concrete legal relationships, having both public and private dimensions, which can be systematically arranged and studied such that the whole constitutes a single unity forming one system. (Muhshin, Imam Koeswahyono, 2014: 117) Since the enactment of the Basic Agrarian Law (UUPA), agrarian law has developed into an independent and autonomous branch of legal science. The enactment of this law was in fact intended to achieve legal unification as well as legal certainty in regulating various agrarian matters. Suhardi has stated that, from that point onward, agrarian law has fulfilled the scientific requirements for an independent branch of science, namely the fulfillment of a material object and a formal object. The material object is expressly set out in the Basic Agrarian Law, namely the earth, water, and airspace, together with the natural resources contained therein, which distinguishes it from other branches of legal

science. The formal object, meanwhile, is the Basic Agrarian Law itself, which serves as the basis and guideline for the formulation of national agrarian law. (AP. Parlindungan, 1993: 27)

The implementation of electronic certificates in the land sector has a significant impact on the efficiency of land administration in Indonesia (Habibi et al., 2024: 499-507). The use of information technology in the administration of electronic-based land services has consequences for members of the public who had previously continued to use physical land certificates. This digital transformation requires holders of land rights to be able to access and manage land documents electronically. However, this capability is not yet possessed evenly across all segments of society. Gaps in digital literacy, differences in educational level, and limited access to technology remain obstacles that give rise to doubt in confronting the digitalization of land services. (Siregar & Pebrianto, 2021: 62-29)

The PECEL POIN innovation (Pelayanan Cepat Elektronik Plotting Peta dan Informasi / Rapid Electronic Map Plotting and Information Service) is a public service innovation developed by the Madiun Regency Land Office, which began to be implemented on 3 October 2022. This innovation is realized in the form of a dedicated service counter aimed at improving the quality of land services by accelerating the process of submitting map plotting requests and providing consultation related to electronic-based land services. The PECEL POIN counter also functions as a means for public complaints, including in handling land-related problems that have the potential to hinder the process of issuing certificates to be updated. The presence of this innovation forms part of the Madiun Regency Land Office's efforts to support the digital transformation of land services while simultaneously realizing services that are more effective, efficient, responsive, and transparent for the public. The establishment of the PECEL POIN innovation demonstrates the Madiun Regency Land Office's commitment to optimizing digital-based land services. Through the provision of integrated services at a single counter, the public gains ease of access to information, the ability to submit complaints, and assistance with the land certification process. This condition supports the acceleration of electronic certificate implementation while simultaneously improving the quality of public service in the land sector.

The establishment of the PECEL POIN counter was motivated by several needs related to improving the effectiveness of land services at the Madiun Regency Land Office. This counter was established with the intention of accelerating the process of checking land parcels and reviewing the history of prior certificates. In addition, a filtering mechanism for documents is required from the outset to ensure that the location of the land parcel and the certificate history submitted are appropriate before further processing. Another need is the provision of accurate information regarding the status of land parcels to be registered for the first time, so that it can be determined from the outset whether the parcel lies within a forest area, falls within the category of Protected Rice Field Land (Lahan Sawah Dilindungi, LSD), or has a particular status with the potential to hinder the registration process. In addition, the PECEL POIN counter also plays a role in assisting with the re-arrangement of land parcels under old certificates that have not yet been accurately mapped, in order to minimize the potential for overlapping land parcels. The foregoing indicates that PECEL POIN functions not merely as a service facility, but also as an instrument supporting digital transformation in the land sector. However, the success of a public service innovation is determined not only by the purpose for which it

was established, but also by the effectiveness of its implementation in the field. An analysis of the implementation of PECEL POIN is therefore needed to identify the factors that support and hinder its execution in supporting electronic certificate services at the Madiun Regency Land Office.

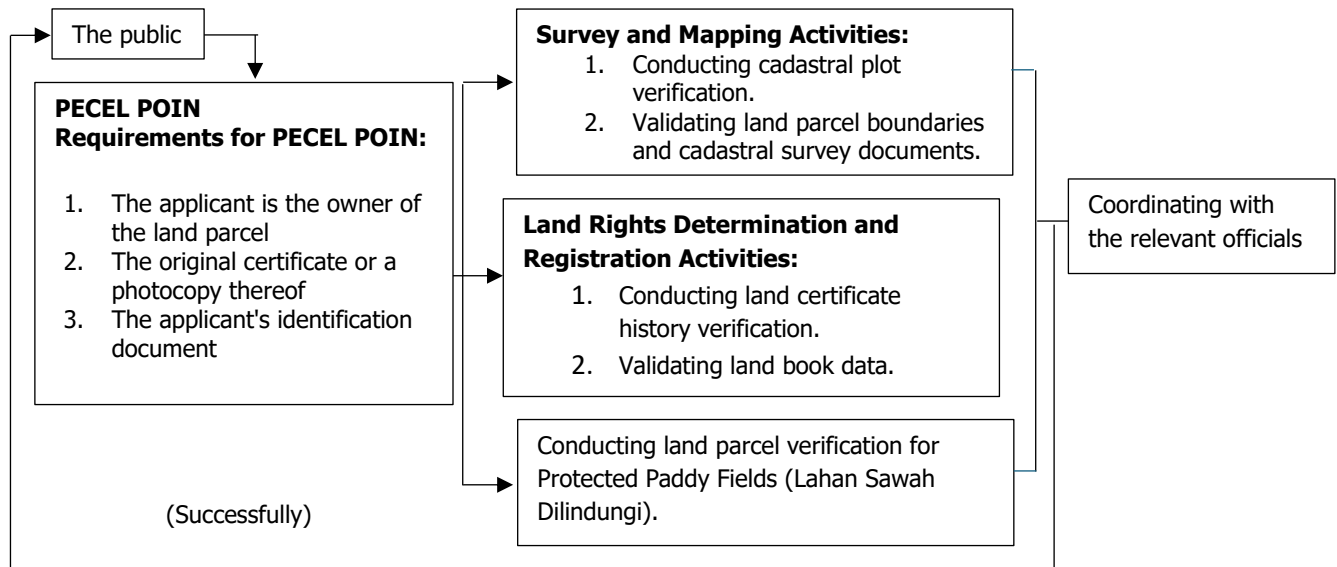


Figure 1. Service Flow for Certificates through the PECEL POIN Counter

Based on Figure 1, the service process through the PECEL POIN counter begins with the submission of an application by a member of the public as the owner of a land parcel, accompanied by the required documents, namely the original certificate and the applicant's identification. The submitted documents are then forwarded to the relevant section for checking and data validation. At the next stage, the Survey and Mapping Section carries out plotting of the land parcel and validates the parcel boundaries and survey documents (*surat ukur*) to ensure the conformity of spatial data. Following this, the Rights Determination and Registration Section carries out validation of the certificate and the land book as a form of verification of juridical data. In addition, the Arrangement and Empowerment Section carries out a check on the status of the land parcel, including identification of parcels falling within the category of Protected Rice Field Land (LSD). Once all stages of examination and validation have been completed, the results are confirmed to the authorized official to determine the follow-up of the land service. If no problems are found in the spatial, juridical, or land-use status aspects, the service process may proceed in accordance with the applicable provisions. This service flow indicates that the PECEL POIN counter functions not only as a place for receiving documents, but also as a mechanism for coordination among sections in carrying out integrated verification of land data before the service proceeds to the next stage.

Based on this flowchart, the mechanism of confirmation to the authorized official represents one form of control within the PECEL POIN service. If, at the validation stage, an obstacle is found—such as a land parcel that cannot yet be plotted, the occurrence of overlapping land parcels, or an indication of a legal problem—the application cannot be processed directly to the next stage. The application must first be confirmed to the authorized official in order to obtain a decision and appropriate follow-up. Once the problem has been resolved, the service process may proceed to the administrative stage as part of the issuance of the electronic certificate. The service process carried out

through the PECEL POIN counter generates service data that is documented on a periodic basis. This data is then compiled in the form of a service recapitulation as material for monitoring and evaluating the implementation of the service. The PECEL POIN service recapitulation presents data that systematically describes the implementation of the service, including the number of applications received, the validation process carried out, and the follow-up results of each application submitted.

This recapitulation provides an overview of the level of utilization of the PECEL POIN service and the progress of its implementation in supporting digital-based land services. In addition, the recapitulation data can be used as a basis for evaluation to identify the achievements and obstacles encountered in the administration of the service, thereby forming a basis for efforts to improve the quality of land services.

The PECEL POIN service recapitulation data used in this research covers the years 2022 and 2023, as well as the period of January–March 2026, in accordance with the availability of data obtained from the Madiun Regency Land Office at the time the research data were collected. Data for 2024 and 2025 were not available, as they were not documented in a recapitulation accessible to the researcher. This limitation in data availability constitutes one of the limitations of this research; nonetheless, the available data can still provide a picture of the developmental trend and implementation of the PECEL POIN service during the relevant periods. The recapitulation data of PECEL POIN service at the Madiun Regency Land Office can be seen in Table 1 below.

Table 1. Recapitulation of PECEL POIN Service Activities

Year	PECEL POIN Service	
	Number of Completed Services	Processing Time
2022	554	1 working day
2023	7438	1 working day
2026 (Jan-Mar)	4245	1 working day

Based on the PECEL POIN service data at the Madiun Regency Land Office, the number of completed services has increased from year to year. In 2022, a total of 554 services were recorded as completed, with a completion time of one working day. This figure increased significantly in 2023 to 7,438 services, with the same standard completion time maintained. Meanwhile, during the period of January–March 2026, 4,245 services had been completed, indicating a high level of utilization of the service by the public. This increase in the number of services indicates that the PECEL POIN innovation is able to support the acceleration and efficiency of land services. Nevertheless, field findings show that some members of the public still perceive a discrepancy between the stipulated completion-time standard and the service actually received. This condition indicates a gap between the service standard and its implementation in the field.

Accordingly, in addition to attending to the increase in the number of completed services, an evaluation of the consistency of service completion time needs to be conducted so

that the quality of service provided can be optimally felt by the public. To identify obstacles related to service completion time, a perception diagram of 53 respondents regarding the length of the service process through PECCEL POIN is presented below.

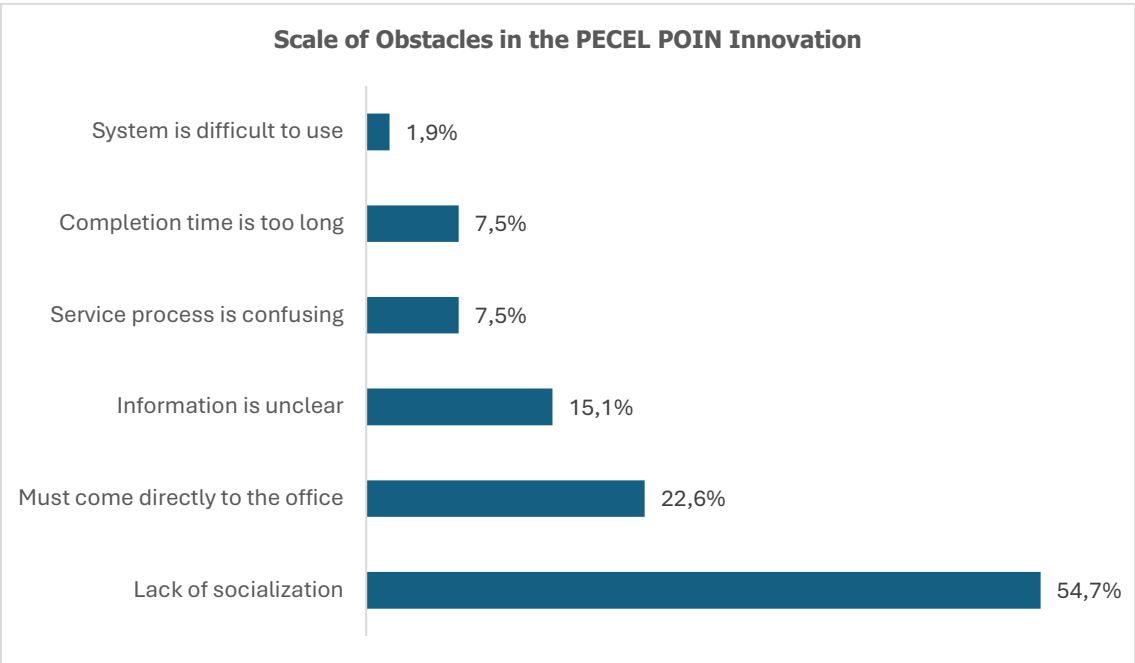


Figure 2. Scale of Obstacles in the PECCEL POIN Innovation

Based on the survey results of 53 respondents, the most commonly experienced obstacle in using the PECCEL POIN service was a lack of socialization, selected by 29 respondents (54.7%). Next, 12 respondents (22.6%) stated that they still had to come directly to the office, 8 respondents (15.1%) considered the available information to be insufficiently clear, 4 respondents (7.5%) considered the service process confusing, 4 respondents (7.5%) felt that the service completion time was still too long, and 1 respondent (1.9%) stated that the system was difficult to use. In addition, several respondents selected the "other" category, who generally stated that they had never used, or were not even aware of, the existence of the PECCEL POIN service. These findings indicate that the main obstacle in the implementation of PECCEL POIN lies not in the technical aspect of using the system, but rather in the aspect of disseminating information to the public. The high percentage of respondents citing a lack of socialization indicates that information regarding the purpose, benefits, and mechanism of the PECCEL POIN service has not yet fully reached the public as users of land services.

On the other hand, although only 7.5% (4 respondents) stated that the service completion time was still too long, this finding nevertheless warrants attention. It indicates a discrepancy between the administrative service performance achieved and the experience felt by part of the public. Yet the PECCEL POIN innovation was developed to accelerate the process of data validation and the completion of land services, including a target completion time of one day. The effectiveness of a service innovation should thus be measured not only by the achievement of the completion-time target, but also by the extent to which the benefit of this acceleration can be directly felt by the public.

In addition to public perception, the level of electronic certificate implementation can also be observed from the achievements in land digitalization carried out by the Madiun Regency Land Office. A comparison between the number of Electronic Land Books (Buku Tanah Elektronik, BTEL) and Electronic Certificates (Sertipikat Elektronik, SERTEL), as presented in Table 2, shows the development of the digital transformation of land services in Madiun Regency.

Table 2. BTEL and SERTEL Data across the Madiun Residency Area

No.	Land Office	Total BTEL	Total SERTEL
1	Madiun Regency	32,317	17,287
2	Madiun City	4,825	4,807
3	Ponorogo Regency	36,476	28,796
4	Magetan Regency	25,337	25,303
5	Ngawi Regency	28,770	18,695

Based on Table 2, the number of Electronic Land Books (BTEL) has reached 32,317 parcels, while the number of Electronic Certificates (SERTEL) has only reached 17,287 parcels. There is thus a gap of 15,030 land parcels that have been digitized within the BTEL system but have not yet been issued in the form of an Electronic Certificate. This gap indicates that the process of digitizing land data has proceeded reasonably well at the level of internal administration; however, its final outcome, namely the issuance of electronic certificates, has not yet been fully experienced by the public as service users. The low level of socialization revealed in the survey results may be one factor explaining this condition. There remain members of the public who do not understand the difference between, and the relationship linking, the Electronic Land Book (BTEL) and the Electronic Certificate (SERTEL); indeed, some respondents admitted to being unaware of the existence of the PECEL POIN innovation. As a result, the transition toward electronic-based land services has not been driven entirely by public awareness of the benefits of digitalization, but rather, in large part, by administrative needs or specific legal actions. Increasing the intensity of socialization and education for the public is therefore an important factor in supporting the optimization of PECEL POIN implementation and the acceleration of the electronic-based land service transformation in Madiun Regency.

The finding regarding the public's still-limited understanding of electronic-based land services is further reinforced by the results of a survey conducted by the researcher among the public of Madiun Regency. This survey result is important to analyze in order to determine the extent to which the PECEL POIN innovation has been utilized as one of the instruments supporting the transformation of electronic-based land services. From this data, it is possible to ascertain not only the level of service usage, but also the level of public acceptance and understanding of the innovation implemented by the Madiun Regency Land Office.

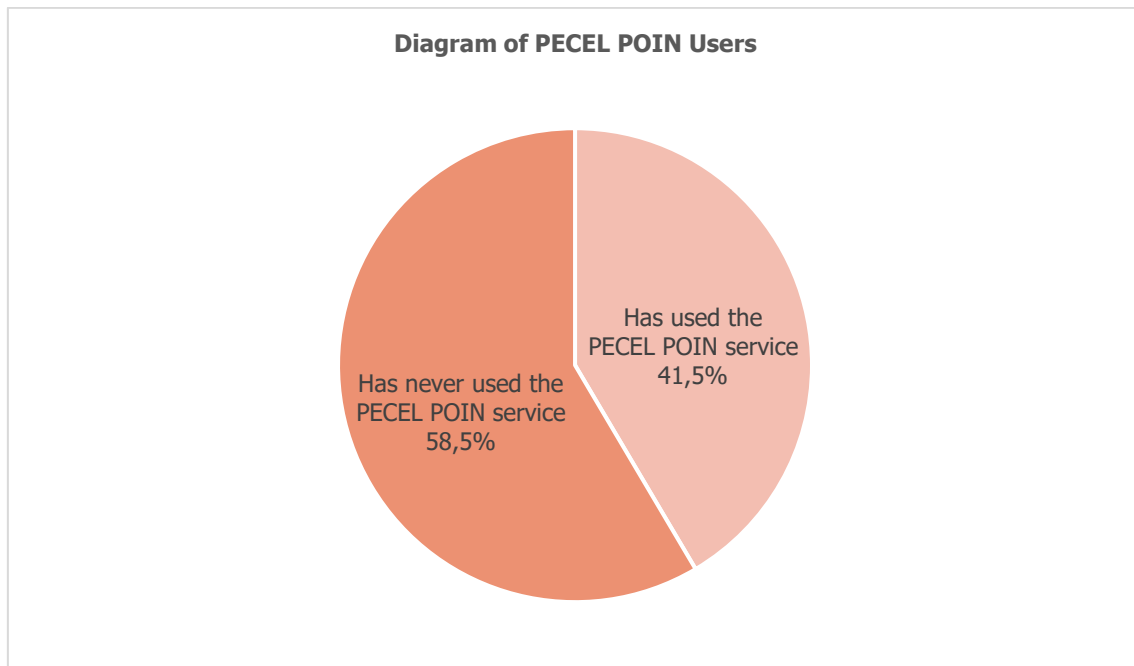


Figure 3. Diagram of PECEL POIN Users

Based on this diagram, the implementation of the PECEL POIN innovation has not yet been fully able to achieve efficiency in land services. Although 15 respondents (28.3%) stated that the service can reduce the need for repeated visits to the Land Office, 8 respondents (15.1%) still had to make repeated visits during the service process. In addition, as many as 30 respondents (56.6%) had never used the PECEL POIN service. The high number of respondents who have not yet utilized the service indicates that the level of utilization of PECEL POIN remains relatively low, such that the benefits of land service digitalization have not yet been optimally felt by the entire public.

In this study, the optimization of electronic certificate implementation is defined as a condition in which the services provided can be effectively utilized by the public, support the acceleration of land services, and facilitate administrative processes. Thus, the success of electronic certificate implementation is measured not only by the amount of land data that has been digitized, but also by the level of service utilization by the public as end users. Based on the data obtained, the number of Electronic Land Books (Buku Tanah Elektronik/BTEL) in Madiun Regency has reached 32,317 parcels, while the number of Electronic Certificates (Sertipikat Elektronik/SERTEL) has only reached 17,287 parcels. This indicates a gap of 15,030 land parcels that have been digitized within the BTEL system but have not yet been issued in the form of Electronic Certificates. This condition demonstrates that the digitization process of land administration has been underway, but has not been fully accompanied by the optimization of electronic certificate issuance to the public. These findings are consistent with the survey results, which show that the majority of respondents have not utilized the PECEL POIN service. The low level of service utilization indicates that the implementation of electronic certificates in Madiun Regency cannot yet be considered optimal. Therefore, further

analysis is required regarding the factors that constitute obstacles in the implementation of electronic certificate services through the PECEL POIN innovation.

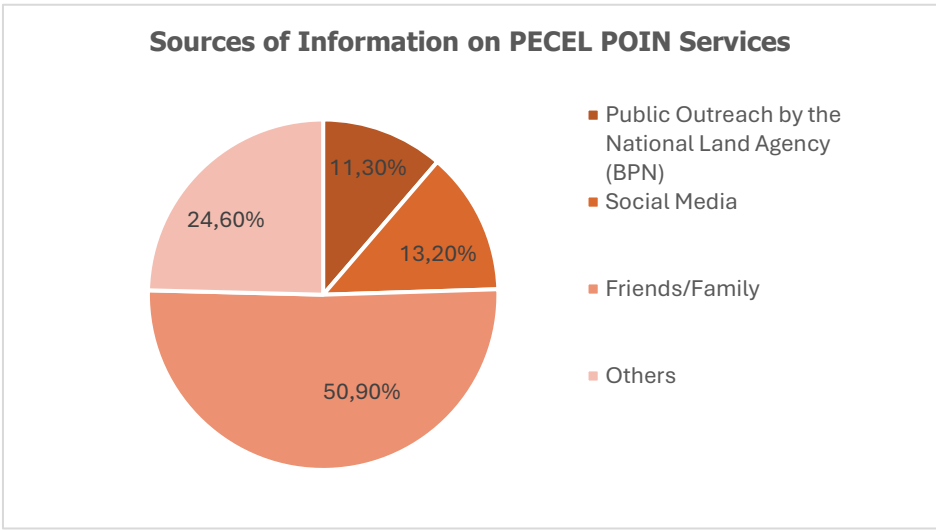


Figure 4. Sources of Information on PECEL POIN Services

The survey results indicate that the main obstacle in the implementation of the PECEL POIN service is still related to the socialization aspect. A total of 27 respondents (50.9%) obtained information about the service through friends or family, while only 6 respondents (11.3%) learned about the service through official socialization conducted by the Madiun Regency Land Office. In addition, 13 respondents (24.6%), categorized as "other," stated that they were unaware of the service, had never used the PECEL POIN service, or obtained information directly upon visiting the Land Office. These findings indicate that the dissemination of information regarding this service innovation is still dominated by informal channels and has not been fully supported by adequate socialization efforts.

The frequency of public visits during the certificate processing procedure is one of the aspects used to assess the effectiveness of the PECEL POIN innovation's implementation. The survey results regarding this aspect are presented in the following diagram.

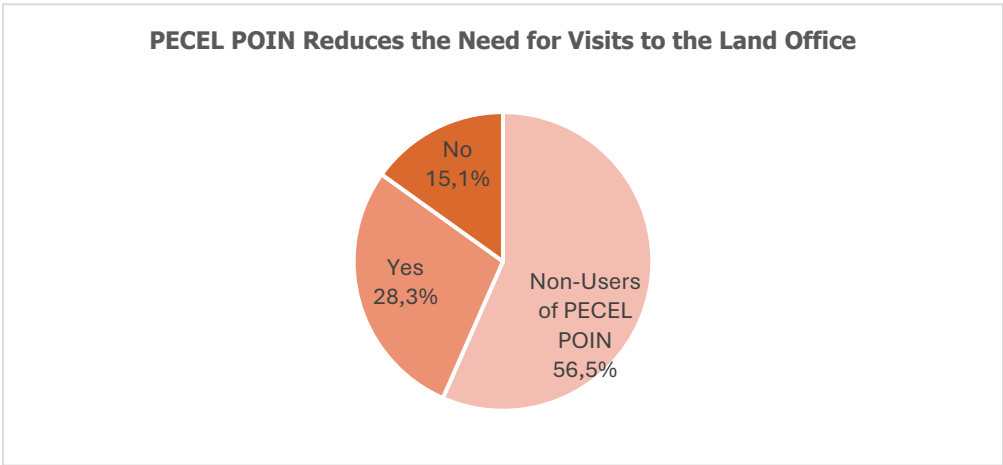


Figure 5. Frequency of the Need to Visit the Land Office

Based on the diagram, the implementation of the PECEL POIN innovation has not yet been fully able to achieve efficiency in land services. Although 15 respondents (28.3%) stated that the service was able to reduce the need for repeated visits to the Land Office, 8 respondents (15.1%) still had to make repeated visits during the service process. In addition, as many as 30 respondents (56.6%) had never used the PECEL POIN service. The high number of respondents who have not yet utilized the service indicates that the utilization rate of PECEL POIN remains relatively low, meaning that the benefits of land service digitization have not been optimally experienced by the entire community.

Based on the research results, the implementation of the PECEL POIN innovation in supporting electronic certificate services at the Madiun Regency Land Office has provided ease in the process of digital-based land services. However, implementation has not run optimally, as various obstacles remain, both in the aspect of socialization and in the aspect of service quality. The low level of utilization of the service by part of the public indicates that information regarding PECEL POIN has not yet been evenly conveyed. In addition, obstacles related to the clarity of information, the ease of procedures, and service efficiency indicate that service quality still needs to be improved. This condition indicates that the goal of digitalizing land services through PECEL POIN has not yet been fully achieved, such that improvement efforts are needed to enhance service effectiveness and public acceptance of electronic certificates.

The analysis of implementation thus shows that there remain aspects that need to be improved in order for the PECEL POIN innovation to function optimally in supporting electronic certificate services. Based on this condition, the following discussion focuses on the strategy for optimizing PECEL POIN as an effort to strengthen the digitalization of electronic certificate services by the Madiun Regency Land Office.

3.2. Optimization Strategy for the PECEL POIN Innovation in Strengthening the Digitalization of Electronic Certificate Services at the Madiun Regency Land Office

This section addresses the second research question by formulating an optimization strategy for the PECEL POIN innovation based on the obstacles identified in Section 3.1. Digital transformation in Electronic Land Certificate services constitutes one of the strategic policies implemented by the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) as an effort to improve the quality of land services. The implementation of this transformation aims to realize services that are faster, more transparent, efficient, secure, and adaptive to the development of information technology. These findings reinforce the understanding that the success of digital-based land services depends not only on the availability of technology, but also on the readiness of infrastructure and the level of digital literacy among both officials and the public (Habibi et al., 2024: 499–507). The reliance of civil servants on various digital applications, accompanied by the implementation of service innovations such as PECEL POIN, indicates an ongoing shift toward a more adaptive and technology-integrated work process in land administration.

Advances in information technology constitute the primary factor driving digital transformation in land services at the Land Office of Madiun Regency. The implementation of the Computerized Land Activities System (Komputerisasi Kegiatan Pertanahan/KKP), the comprehensive use of Electronic Signatures (Tanda Tangan Elektronik/TTE), and the application of digital security systems based on Quick Response

(QR) Code and data encryption demonstrate an increasingly mature level of digital maturity. This transformation not only enhances the efficiency, security, and accountability of services but also transforms the working patterns of civil servants from a physical document-based administrative system into a digitally integrated work process.

This digital transformation is further supported by the implementation of the PECCEL POIN innovation as a digital-based service medium that facilitates the public in obtaining information, accessing service requirements, and monitoring the progress of land service completion. The presence of PECCEL POIN represents part of the effort to optimize the utilization of information technology in order to enhance service accessibility, transparency, and efficiency, while simultaneously reducing the public's need to make repeated visits to the Land Office. (M.Ilimi et al., 2026: 114-124)

These findings reinforce the understanding that technology functions not merely as an operational support tool, but also as a catalyst for organizational change (Ardan et al., 2025: 30901–30906). The reliance of civil servants on various digital applications, accompanied by the implementation of service innovations such as PECCEL POIN, indicates the formation of a more adaptive, integrated, and data-driven work culture in support of improving the quality of land services.

The analysis of service obstacles in the implementation of electronic certificates through the PECCEL POIN innovation was carried out using the parameters of the General Principles of Good Governance (Asas-Asas Umum Pemerintahan yang Baik, AUPB) as set out in Article 10 paragraph (1) of Law No. 30 of 2014 concerning Government Administration. The AUPB constitutes a set of principles serving as guidance for government bodies and/or officials in exercising their authority in order to achieve good governance. The AUPB functions not only as a normative guideline in the administration of government, but also as an instrument for evaluating the quality of public services provided to the public (Ardan et al., 2025: 30901-30906)

Based on the research results, the implementation of electronic certificate services through the PECCEL POIN innovation has, in principle, fulfilled the principle of impartiality. This is reflected in the provision of services carried out equally to all applicants, regardless of social or economic background or other characteristics. The application of this principle is essential to guarantee fair treatment and to prevent discrimination in the administration of public services.

Nevertheless, several other principles have not yet been fully fulfilled. From the standpoint of the principle of *usefulness* (*kemanfaatan*), some members of the public still experience difficulty in accessing the electronic service due to limited digital literacy and a lack of understanding regarding the use of electronic certificates. This condition indicates that the benefits expected from the digitalization of land services have not yet been optimally felt by all segments of society. A public administration policy should ideally provide the greatest possible benefit to the public, while still taking into account the needs and capabilities of service users. This finding underscores that the transition toward an electronic-based service system requires not only the readiness of infrastructure and technology, but also organizational adaptation and increased public trust in digital systems. Accordingly, the success of electronic land certificate implementation depends not only on regulatory support, but also on the level of

acceptance, digital literacy, and readiness of the public as end users.(Gantara, 2026: 117-129)

Furthermore, from the perspective of the principle of openness (keterbukaan), the research results show that there remain members of the public who have not obtained adequate information regarding the procedure, mechanism, or benefits of implementing the electronic certificate. This lack of public understanding indicates that the process of disseminating information has not yet proceeded optimally. According to the concept of good governance, openness of information is an important prerequisite for building public trust in government policy. (Realta et al.,2025: 1-10)

This lack of fulfillment is apparent in the principles of legal certainty, thoroughness, openness, usefulness, and good service. This is shown by the continued existence of public complaints regarding the lack of clarity in service information, confusing procedural flows, transparency of costs that has not yet been optimal, and service completion time considered not yet fully efficient. In addition, the continued low level of service utilization and the lack of socialization indicate that the benefits of the innovation have not yet been evenly felt by the entire public, such that fulfillment of the principle of public interest has likewise not yet been optimal.

In addition, the principle of thoroughness (kecermatan) is also an aspect that requires attention. In the implementation of electronic-based services, the thoroughness of officials is highly necessary to ensure the validity of data, the accuracy of the process of migrating documents from analog to digital form, and the accuracy of information provided to the public. A lack of readiness on the part of human resources, as well as technical obstacles, has the potential to give rise to administrative errors that may affect the legal certainty of land rights. Fulfillment of the principle of thoroughness is therefore an important factor in ensuring the quality of electronic certificate services. Accordingly, although the PECEL POIN innovation has demonstrated conformity with the principle of impartiality, optimization of the application of the principles of usefulness, openness, and thoroughness remains necessary so that the administration of electronic certificate services can run effectively and is able to realize the objectives of bureaucratic reform and high-quality public service.

From the perspective of the AUPB, the quality of public service is measured not only by the achievement of policy objectives, but also by the fulfillment of the principles of usefulness, openness, thoroughness, and legal certainty in its implementation. The implementation of electronic certificates through the PECEL POIN innovation therefore needs to be evaluated on the basis of the extent to which the service is able to provide benefit to the public, provide adequate information, and ensure the accuracy and certainty of land data.

Based on the research results, the strategies that can be carried out to optimize the implementation of electronic certificates through the PECEL POIN innovation at the Madiun Regency Land Office include:

1. Transformation of the PECEL POIN service into a web-based service system integrated with electronic land services, so that the public can access information and submit service requests online more easily and efficiently.

2. Increased socialization and education for the public regarding the PECEL POIN service and electronic certificates through social media, the official website, village governments, and regular outreach activities, in order to improve understanding and utilization of the service.
3. Increased transparency of information, simplification of service procedures, and strengthening of human resource quality, in order to achieve services that are more responsive, accountable, and oriented toward the needs of the public.
4. Acceleration of land parcel measurement and mapping activities through budgetary support, optimization of the systematic land registration program, and the use of digital mapping technology, particularly for land parcels still classified under letter C or *girik* status, in order to support the availability of complete and accurate land data as a basis for the implementation of electronic certificates.

Based on this analysis, it can be understood that the implementation of electronic certificates through the PECEL POIN innovation at the Madiun Regency Land Office has, in principle, made a contribution to supporting the transformation of electronic-based land services. Nevertheless, there remain various obstacles related to the aspects of socialization, service utilization, service quality, and the availability of land data that have not yet been fully optimal. Various integrated improvement strategies are therefore needed, whether through strengthening the service system, increasing public socialization, improving service quality, or accelerating the measurement and mapping of land parcels. The implementation of these strategies is expected to support the optimization of electronic certificate services and to realize land services that are more effective, efficient, transparent, and oriented toward the needs of the public.

4. Conclusion

Based on the results and discussion, this research answers the two research questions formulated in the Introduction. First, the implementation of the PECEL POIN innovation at the Madiun Regency Land Office has, in principle, succeeded in accelerating and simplifying land service administration, as reflected in the increasing number of completed services from year to year and in the fulfillment of the principle of impartiality in service delivery. However, implementation has not yet run optimally: a gap of 15,030 land parcels remains between the number of Electronic Land Books (BTEL) and Electronic Certificates (SERTEL) issued, and more than half of the respondents (56.6%) had never used the PECEL POIN service. The main obstacle lies in the low level of socialization, as most members of the public obtained information about the service through informal channels rather than official outreach. Based on an analysis using the parameters of the General Principles of Good Governance (AUPB), the principles of usefulness, openness, and thoroughness have not yet been fully fulfilled, while limited digital literacy remains a significant barrier to equitable acceptance of electronic-based land services. Second, the optimization strategy for the PECEL POIN innovation requires an integrated approach comprising: (1) transforming PECEL POIN into a web-based service system integrated with electronic land services; (2) intensifying socialization and public education through social media, official websites, village governments, and regular outreach activities; (3) increasing information transparency and simplifying service procedures, supported by strengthening human resource quality; and (4) accelerating land parcel measurement and mapping, particularly for parcels still classified under letter C or *girik* status. The implementation of these strategies is expected to enhance the effectiveness of electronic

certificate services, strengthen public trust in digital-based land administration, and support the achievement of bureaucratic reform objectives in the land sector. Theoretically, this research contributes to the study of public service innovation as an instrument of legal implementation in the land sector; practically, its findings may serve as a basis for policy evaluation by the Madiun Regency Land Office and as a reference for similar innovations in other regions.

5. References

Journals:

- Ardan, R. A. R., Kn, M., & Andayani, L. (2025). *Inovasi Digital dalam Sistem Pertanahan di Indonesia : Transformasi Sertipikat Tanah dari Konvensional Menjadi Elektronik*. 5(1), 30901–30906. DOI: <https://doi.org/10.31004/joecy.v5i3.4453>
- Gantara, M. F. (2026). *Problematisasi Keabsahan Sertifikat Tanah Elektronik sebagai Alat Bukti dalam Sengketa Pertanahan : Studi Yuridis di Kota Bengkulu*. 2(April), 117–129. DOI: <https://doi.org/10.59435/menulis.v2i4.1089>
- Ghaniyyu, F. F., Pujiwati, Y., & Rubiati, B. (2023). *Jaminan Kepastian Hukum Konversi Sertipikat Menjadi Elektronik Serta Perlindungannya Sebagai Alat Pembuktian Legal Certainly Conversion Of Land Certificate Form To Electronic And Proff Of Rights Holders berbentuk fisik sebagaimana disebutkan dalam UUPA da*. 5(1), 172–187. DOI: <https://doi.org/10.26623/julr.v5i1.4553>
- Habibi, S. A., Prambudi, G. S., Trisnawati, T., & Wulandari, R. (2024). Transformasi Digital Administrasi Pertanahan: Implementasi Dan Tantangan Sertipikat Elektronik Di Indonesia. *Rio Law Jurnal*, 6(1), 499–507. <https://doi.org/10.36355/rj.v6i1.1582>
- Ilmi, M., & Fanida, Eva Hany FanidaMeirinawati Oktariyanda, Meirinawati, Oktariyanda T. A. (2026). *Transformasi Digital Layanan Sertipikat Tanah Elektronik di Kantor Pertanahan Kabupaten Tulungagung seiring meningkatnya tuntutan masyarakat terhadap layanan yang cepat, transparan, dan Tulungagung serta mengidentifikasi faktor pendukung, faktor penghambat*. Perspektif Administrasi Publik Dan Hukum, 3(November 2025), 114–124. DOI: <https://doi.org/10.62383/perspektif.v3i1.943>
- Putra, R. A., & Winanti, A. (2024). *Urgensi Penerbitan Dokumen Sertifikat Tanah Elektronik Pasca Peraturan Menteri ATR / BPN Nomor 3 Tahun 2023 Urgency for the Issuance of Electronic Land Certificate Documents After the Regulation of the Minister of ATR / BPN Number 3 of 2023*. 7(2), 835–852. DOI: <https://doi.org/10.26623/julr.v7i2.9178>
- Realta Grandnera Manumpahi, Lendy Siar. (2025). *Asas Keterbukaan Dalam Penyelenggaraan Pemerintahan Yang Baik*. Jurnal Fakultas Hukum UNSRAT, 13(4), 1–10.
- Rezeki Aldila Rajab, Bambang Eko Turisno, Lumbanraja, A. D. (2020). *Sertifikat Hak Atas Tanah Dalam Kepastian Hukum Pendaftaran Tanah*. Notarius, 13, 642–654. <https://doi.org/10.14710/jis.%25v.%25i.%25Y.%25p>
- Safitri, F. A., ALW, Lita Tyesta, Lumbanraja, A. D. (2020). *Akibat Hukum Penggunaan*

Sistem Publikasi Negatis Berunsur Positif dalam Pendaftaran Tanah Di Kota Semarang. 13, 788–802. <https://doi.org/10.14710/nts.v13i2.31167>

Setyawahyuningtyas, L. Siswanto, Cecep Tedi. (2025). *Analisis Yuridis Normatif Terhadap Kebijakan Sertifikat Elektronik Dalam Menjamin Kepastian Hukum Hak Tanah.* JURNAL HUKUM CARAKA JUSTITIA, 5(2), 286–297. <https://doi.org/10.30588/jhcj.v5i2.2440>

Siregar, E., & Pebrianto, D. Y. (2021). *Sosialisasi E-Sertifikat Tanah Dalam Rangka Mewujudkan Kepastian Hukum Di Indonesia.* 5(5), 62–69. <https://doi.org/10.22437/jkam.v5i3.16999>

Darusman, Yoyon Mulyana (2023). *Kedudukan Notaris Sebagai Pejabat Pembuat Akta Otentik dan Sebagai Pejabat Pembuat Akta Tanah.* Jurnal Hukum, 7(1), 38–56 <https://doi.org/10.33476/ajl.v7i1.331>

Books:

AP. Parlindungan. (1993). *Komentar Atas Undang-Undang Pokok Agraria.* Mandar Maju.

Hadi, S. (2000). *Metodologi Research Jilid I.* Andi.

Harsono, B. (1997). *Hukum agraria Indonesia: sejarah pembentukan undang-undang pokok agraria, isi dan pelaksanaannya* (Cet. 7., e). Djambatan.

Marbun, S. F. (2018). *Peradilan Administrasi Negara dan Upaya Administratif di Indonesia.* UII Press.

Mezak, M. H. (2006). *Jenis, Metode dan Pendekatan Dalam Penelitian Hukum.* Law Review, 5(3), 85–97.

Muhshin, Imam Koeswahyono, S. (2014). *Hukum Agraria Indonesia dalam Perspektif Sejarah.* Reflika Aditama.

Santoso, U. (2016). *Pejabat Pembuat Akta Tanah, Perspektif Regulasi, Wewenang, dan Sifat Akta.* Prenadamedia Group.

Sadjijono. (2019). *Memahami Beberapa Bab Pokok Hukum Administrasi.* LaksBang Pressindo.

Soekanto, S. (1986). *Pengantar Penelitian Hukum* (p. 51). UI Press.

Regulation:

Law No. 5 of 1960 concerning Basic Regulations on Agrarian Principles

Law No. 30 of 2014 concerning Government Administration

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

Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration Activities