



Implementation of Electronic Land Certificate Policy: A Case Study in Denpasar City

Farista Dewi Anindyati^{1*}, Rahmat Hidayat², Akadun³

^{1,2} Universitas Terbuka, Jalan Pondok Cabe Pamulang, Tangerang Selatan

³ Universitas Sebelas April, Sumedang, Jawa Barat

* Correspondence: farista.danindyati@atrbtn.go.id

ARTICLE INFO	ABSTRACT
<p>Keywords: Electronic Land Certificate, Land Policy, Denpasar Land Office</p> <p>Date logs: Received: June 12, 2025 Reviewed: July 29, 2025 Accepted: Sept 11, 2025 Published: Sept 24, 2025</p> <p>How To Cite: Anindyati, F.D., Hidayat, R., Akadun, (2025). Implementation of Electronic Land Certificate Policy: A Case Study in Denpasar City, <i>Marcapada: Jurnal Kebijakan Pertanahan</i>, 5(1), 1–18. https://doi.org/10.31292/mj.v5i1.161</p>	<p>The electronic certificate policy was expected to be a step towards improving the quality of land services. However, the policy, initially formulated in the Regulation of the Minister of ATR/BPN No. 1 of 2021 concerning Electronic Certificates, was postponed due to content that raised public concerns, particularly regarding the regulation of analog certificate withdrawals. The Denpasar City Land Office became the first implementer of the electronic certificate policy in Indonesia following the enactment of Regulation No. 3 of the Minister of ATR/BPN in 2023. The purpose of this study was to analyze how the electronic land certificate policy was implemented at the Denpasar City Land Office using George C. Edward III's theory, which focuses on aspects of communication, resources, disposition, and organizational structure using qualitative research methods. Based on the research results, it was determined that the successful implementation of the electronic land certificate policy at the Denpasar City Land Office was inseparable from the commitment of the leadership and all staff, in addition to effective communication, adequate resources, and a positive attitude among implementers. However, it is necessary to update the Standard Operating Procedures to adapt to existing electronic land services.</p>

A. Introduction

Advances in technology and information present challenges for land administration in improving the efficiency and transparency of land registration. Furthermore, Indonesia's geographical location, located in the Ring of Fire, is prone to various natural disasters and impacts land services (Pambudi, 2018). One such disaster was the 2004 tsunami in Aceh, which not only destroyed physical buildings but also destroyed land documents (Amrin et al., 2022; Paulina, 2024). The 2021 flood in Hulu Sungai Tengah disrupted services because some archives were submerged (Anwary, 2023), and a fire at the Brebes Regency Land Office in 2023 destroyed 6,000 PTSL certificates (Setyaningsih et al., 2023).

Damage to land documents can impede the provision of land services, especially those that rely on archives or documents, the majority of which remain in analog form. Not only can land records at the land office sustain damage, but landowners may also lose or damage their certificates. Every year, the Denpasar City Land Office consistently receives applications for replacement certificates. In 2023,

there were 86 applications for replacement certificates due to damage and 30 applications for replacement certificates due to loss.

We can conclude that modernizing land services is a necessity based on the damage data and the number of replacement certificate applications. The implementation of electronic certificates is a positive step towards modernizing land services (Ilham et al., 2023). With electronic certificates, people will easily access digital data and be free from certificate forgery (Alimuddin, 2021); however, the challenges are certainly not easy, especially the validity of the data forming the electronic certificate, which must be prepared well, be accountable, and follow existing regulations (Wulan et al., 2022; Halim & Gunadi, 2024). According to Ana Silviana's study (2021), the implementation of electronic land certificates is a necessity in order to meet the needs of an increasingly modern society, especially for the current generation in Indonesia who are fluent in technology. Citing data from the Central Statistics Agency in Denpasar City (2023), the number of productive-age people reached 73%. Of the total population of 725,314 people in Denpasar City, the Baby Boomer and pre-Boomer generations only make up 13.24%; the rest are Generation X, Millennials, Generation Z, and Post Gen Z (Adi, 2024). This is both an opportunity and a challenge in implementing modern land policies, namely electronic certificates.

The Land Office, as the provider of land services, must address major challenges related to public readiness to accept policies regarding electronic certificates. Similarly, Adinegoro (2023) stated that the Sert-El innovation faces challenges such as inadequate infrastructure, a lack of public digital literacy, cybersecurity risks, and data privacy issues. Wulan et al. (2022) also noted challenges related to electronic systems and the lack of assurance that they will operate properly and be secure from disruption. The launch of the Regulation on Electronic Certificates, signed by Minister of Agrarian Affairs Sofyan Djalil on January 12, 2021, has drawn both pros and cons (Silviana, 2021). People who have not received sufficient information about electronic certificates tend to be reluctant to certify their land electronically. Mujiburohman (2021), in his study entitled *Transformation from Paper to Electronic: A Legal and Technical Review of Electronic Land Certificates*, stated that implementation challenges include educational factors, economic factors, and the readiness of facilities and infrastructure. The implementation of electronic certificates is a positive step in the modernization and digitization of land activities because proper implementation will provide legal protection for relevant parties (Ilham et al., 2023). However, the electronic data's readiness to support electronic certificate services has not yet reached its full potential.

Based on research at the Semarang Regency Land Office, there are land plots with valid status but do not meet the criteria stipulated in the technical guidelines (Suhattanto et al., 2021). This situation will certainly impact the implementation of electronic certificates, as good-quality land data is necessary to provide a sense of security and legal certainty. An electronic-based system for land registration will produce output in the form of electronic documents, namely electronic certificates, which will benefit the public by providing easy access to digital data and will be free from land certificate forgery (Alimuddin, 2021). According to Sumardjono (2009), a certificate is strong evidence

of title, meaning it must be considered valid until proven otherwise in court with other evidence. The presence of electronic certificates is also expected to provide protection and legal certainty for land rights holders and serve as a solution for dispute resolution (Masri & Hirwansyah, 2023). Therefore, it is vital to uphold data integrity and implement security measures such as encryption and blockchain (Kamali Martin & Adiva Prita Ramadania, 2025).

Denpasar City is the first land office in Indonesia to launch electronic certificate services. This prompted the authors to delve deeper and examine the implementation of the electronic land certificate policy at the Denpasar City Land Office. This study, unlike its predecessors, will concentrate on the electronic certificate policy subsequent to its implementation on community land. Several previous studies have revealed contradictions with the e-certificate, even before the policy's full implementation. Ideally, the implementation of electronic certificates at the Denpasar City Land Office can be executed smoothly for privately owned land, thus adding value to land registration services. In this context, this article specifically aims to analyze the implementation of the Electronic Certificate policy at the Denpasar City Land Office, focusing on communication, resources, disposition, and organizational structure.

B. Research Methods

This study employed a qualitative descriptive research design, with data collection techniques including direct observation, interviews, and the study of sources such as books, literature, lecture materials, and laws and regulations related to electronic certificates (Creswell & Creswell, 2017).

Qualitative research is a research approach that seeks to identify and understand the meaning conveyed verbally by individuals or groups that are closely related to social or human issues (Rulinawati & Aisyah, 2023). A qualitative research approach was chosen as the basis for this study because it is relevant to the research objective, namely, to analyze the implementation of the electronic certificate policy at the Denpasar City Land Office. Observations were conducted by directly watching how the policy was implemented to gain a better understanding of its implementation and impact. The interviews conducted in this study were semi-structured to obtain in-depth information regarding experiences, perspectives, and understandings related to electronic certificates. To complement the observations and interviews, a document study was conducted of regulatory texts, policies, articles, reports, and other documents relevant to the implementation of the electronic certificate policy and supporting the results of the observations and interviews. Data analysis was conducted before entering the field, during the fieldwork, and after completion, with a greater focus on collecting data in the field.

President Joko Widodo, during the inauguration of Agus Harimurti Yudhoyono as Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency (BPN), emphasized the need to promote electronic certificates more widely. Based on the Electronic Certificate Policy enacted in 2021 and subsequently updated in 2023, the author aims to explain the urgency of implementing the Denpasar City Land Office's electronic land certificate policy. Furthermore, as the first office to

implement electronic certificates, the author aims to understand how the electronic certificate policy is being implemented at the Denpasar City Land Office. Regarding the implementation of this policy, an analysis will be conducted of aspects such as communication, resources, disposition, and organizational structure, as proposed by George C. Edward III (1984). Other analyses will also examine the implementation requirements and processes necessary to ensure the successful issuance of electronic certificates, from top management to implementers, including any obstacles encountered. The author also wants to provide a more detailed explanation of the integrated application, *Sentuh Tanahku*, which functions as an electronic safe and is an essential component of the electronic certificate.

C. Results and Discussion

1. Electronic Certificate Policy

One of the functions performed by the Denpasar City Land Office, as stipulated in Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 17 of 2020, is the implementation of electronic-based land service modernization. The use of information and communication technology is absolutely necessary to achieve the modernization of land services, which can improve indicators of ease of doing business and enhance public services to the community. In the land sector, this goal is achieved by implementing electronic-based land services. One example of this electronic-based land service is the issuance of land registration results in the form of electronic documents. Electronic certificates were actually initiated with Regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency No. 1 of 2021 concerning Electronic Certificates. However, at that time, the phrase "withdrawn" was included, which caused quite a stir in the community. In the new regulation, Regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency No. 3 of 2023, when the ATR/BPN revokes a community's certificate, it must also provide something (a replacement) that the community can hold. The legislation also provides a solution if the land or certificate owner is elderly or does not have a smartphone.

2. Implementation of Electronic Certificate Policy at the Denpasar City Land Office

The Denpasar City Land Office inaugurated the Electronic Certificate (E-Certificate) issuance service for public land on Thursday, January 25, 2024. The Denpasar City Office delayed the inauguration of this service due to the issuance of the E-Certificate policy. The Denpasar City Office had already officially become a complete city a year earlier. Following its official status as a complete city, the Denpasar City Office conducted a study on electronic services, a lengthy process. During this process, the Bali Provincial Land Agency (BPN) Regional Office, in collaboration with the Denpasar City Office, developed an application that obtained certification from the Electronic Certification Center (BSrE). At the inauguration ceremony, Andry Novijandri, Head of the Bali Provincial BPN Regional Office, emphasized that the electronic certificate issuance service not only digitizes certificates but also encompasses everything from registration and data input to issuance.

The implementation of electronic services is an initiative to streamline land services, ensuring that service time and cost standards meet current demands. The implementation of Sert-El allows for a more expedited path for electronic services, whereas previously only two services existed: information services and mortgage rights services.

In this regard, in an interview, the Head of the Denpasar City Land Office emphasized the importance of implementing Sert-El, given the several failures of the manual system. This means the manual land system has flaws, so one suggestion is to use an electronic system. Besides security, it is also more effective, efficient, and transparent. With an electronic system, the Denpasar City Land Office leadership has greater confidence in the processes implemented, as all products can be issued solely through it.

The Denpasar City Land Office was the first in Indonesia to officially launch the Electronic Certificate Issuance System for the Public in 2024. Since its inauguration, all land services related to land title certificates have resulted in electronic certificates. Based on a summary of Electronic Services statistics, the number of Electronic Certificate issuances at the Denpasar City Land Office has surged from 2023 to 2025.

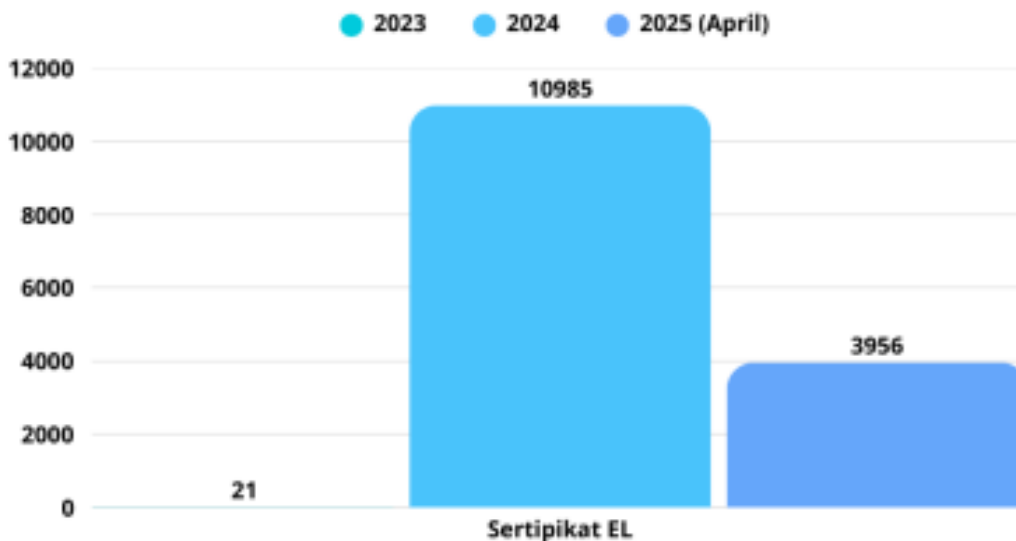


Figure 1. Number of Certificates Issued in Denpasar City
Source: Denpasar City Government Administration Office, 2025

3. Preparation of Denpasar Land Office in Implementation

Based on interviews conducted with several informants, including the Head of the Denpasar City Land Office, the Head of the Survey and Mapping Section, the Head of the Rights Determination and Registration Section, and administrators, the primary prerequisite for implementing Sert-El is data.

There are three main prerequisites that must be met to fully implement electronic services, as outlined in the 2023 Performance Report of the Denpasar City Land Office:

- a) The electronic service must ensure the accuracy and validity of textual and spatial data, as data errors could lead to the provision of incorrect information;

- b) Integrity of service providers, because with electronic services, existing electronic data will serve as a source of truth. What is recorded in the electronic data is considered a valid document;
- c) Digital literacy among service providers. Facts show that many state officials currently use electronic services such as e-commerce, ride-sharing, and others. Therefore, it is time for state officials to become reliable service providers, as others have done with their success stories.

The Denpasar City Land Office is one of 12 offices chosen to test electronic certificates, as stated in a government decree, and is working hard to improve land data quality to speed up electronic land services.

Efforts to improve the quality of land data at the Denpasar City Land Office began in 2020. In January 2020, data showed that KW 456 (incomplete land certificates) stood at 18,336 plots. Of this number, there was a significant decrease by October 2021 to 4,518 plots. By December 2023, KW 456 data had decreased to 3,031 plots. In addition to data reliability, the Denpasar City Land Office also provided all employees with a sufficient understanding of Sert-EI before the service was implemented.

4. Communication Aspects in Sert-EI Implementation

Communication is a crucial factor impacting policy implementation. The success of a policy can be measured by the effectiveness of communication in conveying information to relevant parties. The information conveyed must be accurate and clear so that target groups can clearly understand the policy's objectives. In the context of implementing the Sert-EI policy at the Denpasar City Land Office, internal and external communication play a crucial role. Internally, the Denpasar City Land Office communicates to all employees through outreach, training, and internal meetings related to the Sert-EI policy implementation. In implementing this policy, instructions and communication messages are conveyed, ensuring that both implementers and service users welcome the Sert-EI policy.

As a vertical agency, the Denpasar City Land Office receives full support from the Ministry of ATR/BPN to implement the Sert-EI Policy, which consistently provides direction and instructions through various forms of assistance. Likewise, the Land Office continuously ensures that the public fully understands the Sert-EI policy.

In addition to internal communication, information on electronic services, including electronic certificates, is also disseminated to various stakeholders, including the public, local governments, and other agencies, including partners, such as Land Deed Officials (PPAT). PPATs are the primary target group because they are the closest partners and are expected to act as spokespersons for the public, whom they frequently encounter when drafting deeds of sale, purchase, gift, and other legal acts. Therefore, outreach to PPATs is one of the communication strategies implemented by the Land Office. As the primary partner of the Land Office, PPATs are expected to also act as agents who can communicate Sert-EI policies to the public. Outreach is conducted in various locations to target various segments of the community, including utilizing radio, banners, and brochures. To effectively and comprehensively disseminate, publish, and communicate the programs and activities of the Denpasar City Land Office, including Electronic Certificates, particularly through social media, the Denpasar City

Land Office issued Decree Number 13/SK-51.71.UP.04.07/I/2024 concerning the establishment of a Communication Strategy Management Team in 2024. We use the Denpasar City Land Office's social media platforms, such as its website, Instagram, Facebook, Twitter, and YouTube, to spread information about Sert-El. Below are the official contact information and social media channels for the Denpasar City Land Office.

As the first office to implement Sert-El, the Denpasar City Land Office not only disseminates information about Sert-El within Denpasar City but also shares its implementation experiences with other offices both in Bali and across the nation. More than 20 land offices from various regions conducted benchmarking sessions with the Denpasar City Land Office.

Table 3. List of Electronic Certificate Copy Studies

No.	Time	Agency Name	Information
1.	February 7, 2024	Jembrana Regency Land Office	
2.	February 19, 2024	Regional Office of BPN Prov. Central Java	Online meeting
3.	February 29, 2024	Mojokerto Regency Land Office	
4.	April 19, 2024	Mataram City Land Office	
5.	April 22, 2024	Makassar City Land Office	
6.	April 22, 2024	Maros City Land Office	
7.	April 24, 2024	Dumai City Land Office	
8.	April 24, 2024	Regional Office of BPN Bangka Belitung	Online meeting
9.	April 25, 2024	Land Office of Pontianak City and Singkawang City	Online meeting
10.	April 29, 2024	Kanwi BPN Prov. Papua Barat	Online meeting
11.	April 29, 2024	Sorong City Land Office	
12.	April 29, 2024	Bintuni Bay Land Office	
13.	April 29, 2024	Manokwari Regency Land Office	
14.	April 29, 2024	Fak Fak Regency Land Office	
15.	April 29, 2024	Land Office of Raja Ampat Regency	
16.	April 29, 2024	South Sorong Regency Land Office	
17.	April 29, 2024	Tambrau Regency Land Office	
18.	May 2, 2024	Kupang City Land Office	
19.	May 2, 2024	Regional Office of BPN Prov. Riau Islands	Online meeting
20.	May 14, 2024	Musi Rawas Regency Land Office	
21.	Periodic Coordination	Bogor City Land Office	
22.	Periodic Coordination	Sibolga City Land Office	
23.	Periodic Coordination	Bontang City Land Office	
24.	Periodic Coordination	Madiun City Land Office	
25.	Periodic Coordination	Metro-Lampung City Land Office	
26.	Periodic Coordination	Yogyakarta City Land Office	
27.	July 1, 2024	Jambi City Land Office	
28.	November 15, 2024	Gowa Regency Land Office	

Source: Denpasar City Governorship Data, 2024

5. Resource and Capacity Aspects

A policy's implementation will be effective if the resources supporting it are adequate. The implementation of the electronic certificate policy at the Denpasar City Land Office must be supported by qualified human resources, facilities and infrastructure, and adequate budgetary resources. Based

on the author's observations, the number of human resources supporting the implementation of electronic certificates is generally sufficient. There are 76 civil servants (ASN) (PNS and PPPK) and 52 PPNPN (National Civil Servants) from various disciplines and educational levels who support the duties and functions of the Denpasar City Land Office.

The availability of facilities and infrastructure is also a determining factor in the smooth implementation and success of the policy. Based on the author's observations, the Denpasar City Land Office already has a primary facility for issuing electronic certificates, a duplex printer. This printer was not necessary when certificates were still analog. In addition, the Denpasar City Land Office also has an Electronic Certificate Printing Machine (APS). At the beginning of the launch of the Sert-EI policy, there were only 2 machines, namely at the ATR/BPN Data Center and at the Denpasar City Land Office.



Figure 1. Duplex Printers for Sert-EI Printing
Source: Author Documentation, 2025

There are three duplex printers for printing electronic certificates at the Denpasar City Land Office, namely in the Sub-Section of Land and Space Registration, Communal Land and Institutional Relations as many as 1 (one), and in the Sub-Section of Land Rights Maintenance, Space, and PPAT Guidance as many as 2 (two). Meanwhile, the certificate printing machine located in the counter room has sufficient specifications: an Intel i7 3.6 GHz processor, 8 GB of memory, 128 GB of storage with SSD, a 19" LED touch-screen display, a 1080p anti-backlight front camera, a QR scanner capable of reading QR codes, an eKTP reader for biometric authentication for RFID-based KTPel matching with fingerprint recognition, a double channel speaker, and metal material with a minimum thickness of 2 mm.



Figure 2. Certificate Printing Platform Machine
Source: Author Documentation, 2025

In addition to being used to independently print electronic certificates, the APS machine can also be used to verify the public's "Touch Tanahku" (My Touch) accounts. To facilitate the use of the APS machine, the Denpasar City Land Office has posted a user guide on a standing banner next to it. As of May 2025, APS machine utilization at the Denpasar City Land Office was the highest in Indonesia, with 322 electronic certificates printed and 198 account verifications for "Touch Tanahku" (My Touch) accounts.

#	KD Kiosk	Lokasi	Alamat	Cetak	Verifikasi	Total
1	K0090	Kota Denpasar	Jl. Pudak No.7, Dangin Puri Kangin, Kec. Denpasar Utara, Kota Denpasar, Bali 80233	322	198	520
2	K0084	Kota Parepare	Jl. Jenderal Sudirman No.76, Bumi Harapan, Kec. Bacukiki Bar., Kota Parepare, Sulawesi Selatan 91121	231	165	396
3	K0050	Kab. Klaten	Jl. Veteran No.88, Borenglor, Boreng Lor, Kec. Klaten Utara, Kabupaten Klaten, Jawa Tengah 57438	100	36	136
4	K0095	Kab. Bangli	Jl. Lettu Sobat No.9, Banjar, Kawan, Kec. Bangli, Kabupaten Bangli, Bali 80614	21	8	29
5	K0017	Kota Bengkulu	Jl. S. Parman No. 13, Kel. Padang Jati, Bengkulu 38227	18	84	102

Figure 3. APS Dashboard
Source: MPA Application, 2025

Adequate technological infrastructure support is crucial for the successful implementation of Electronic Land Certificates (Assidiqih & Susilowati, 2023). Throughout the service process, including the issuance of Electronic Certificates, the back office utilizes applications and software, including the Computerized Land Office (KKP) application, the Land Book and Measurement Certificate Validation Application (SITATA), the Geo KKP application, and other supporting tools.

6. Disposition Aspects

Based on the author's observations and interviews in the field, employees tend to have a positive view of the Electronic Certificate policy. Employees holding land certificates in Denpasar are actively converting their analog certificates to electronic ones. This phenomenon is also true for officials and employees holding land certificates outside Denpasar City. This initiative is inseparable from the efforts made by the Denpasar City Land Office to provide an understanding of the policy's objectives.

To ensure effective work and the smooth implementation of the organizational performance change action plan aimed at improving land services quality through Electronic Certificates for the Denpasar City community, the Denpasar City Land Office established an Effective Team as outlined in Decree No. 90/SK-51.71.UP.02.03/X/2024 from the Head of the Denpasar City Land Office. This decree identifies employees deemed capable of carrying out the Effective Team's duties. This agrees with Edward III's (1984) theory on disposition, which says that bureaucrats must be competent, honest, and loyal to the policies being implemented.

7. Bureaucratic Structure in the Implementation of Sert-EI in the City of Denpasar

The Land Service Standards are service standards that include delivery and manufacturing components aimed at achieving legal certainty, transparency, and accountability in public services. An interview with the Head of the Administration Sub-Division at the Denpasar City Land Office explained that, as the first implementer, the challenge was the lack of technical instructions, leading to initial implementation still being somewhat tentative. The difference lies in the output, which was previously analog certificates and is now electronic certificates for all land registrations. The media transfer process (from existing certificates) is illustrated as follows.

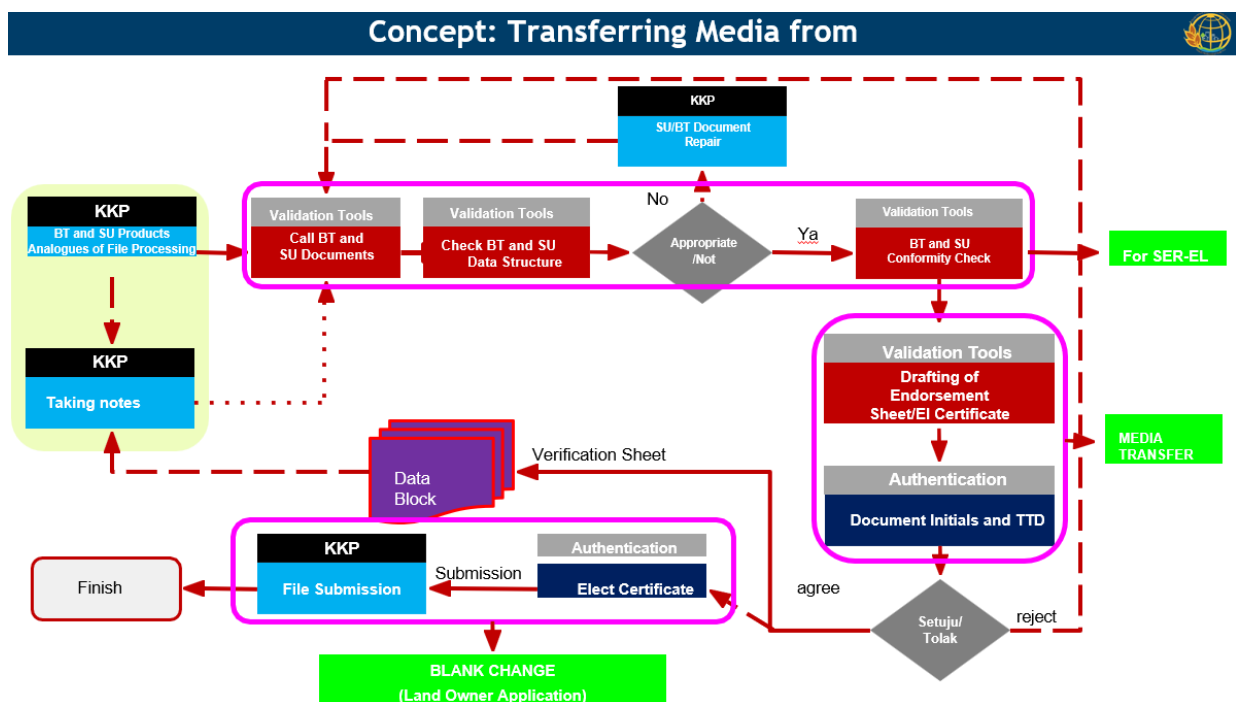


Figure 4. Sert-EI Media Transfer Flow

Source: Documentation of the National Webinar on the Implementation of Electronic Certificates, 2024

Based on the media transfer process, each application must pass the Measurement Letter validation stage. To support the effectiveness of electronic land services (Sert-EI), the Denpasar City Land Office has delegated the authority of the Head of the Survey and Mapping Section to the Korsub, or Functional Official. This delegation of authority to validate electronic measurement letters is outlined in Assignment Letter No. 176/ST-51.71.IP.02.02/I/2024.

To ensure the smooth running of each stage of the implementation process and ease of control following the launch of electronic services, the Denpasar City Land Office has established Standard Operating Procedures (SOPs) related to electronic services: SOPs for Electronic Land Title Transfer Services, SOPs for Electronic Land Title Change Services, SOPs for Electronic Land Title Change Services, SOPs for Electronic Mortgage Rights Services, SOPs for Electronic Sale and Purchase Transfer Services, and SOPs for Electronic Sale and Purchase Transfer Services.

8. Getting to Know the Sert-EI Format

One of the requirements for implementing Sert-EI is that it must be secure from hackers, making it difficult to hack (Wulan Titik Andari & Aries Mujiburohman, 2023). The original Sert-EI is a digital file in the form of an electronic document (PDF) stored in an electronic safe. Land rights holders are granted access to open the Sert-EI electronic safe on their land. In addition to access to open the electronic safe, land rights holders are also provided with a printed copy of the Sert-EI, in the form of an official copy, under the following conditions:

- The official copy is printed on paper with special specifications provided by the Ministry. This special-specific paper is secure paper equipped with several security features;
- The Sert-EI is printed on both sides, and any deficiencies can be added to the secure paper sheet;
- The additional secure paper sheet is an official copy from the Ministry without the Garuda letterhead and without a blank code.

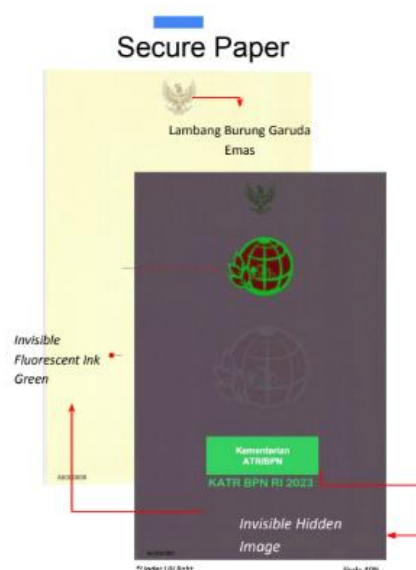


Figure 5. One of the Security Features on Sert-EI
Source: National Webinar on Electronic Services, 2024

The paper used to print the official copy of Sert-EI is a type of paper money from Peruri. Identification of its authenticity can be done, such as checking the authenticity of money (seen, touched, touched). When illuminated by UV rays, the logo and inscription of the Ministry of ATR/BPN will appear.

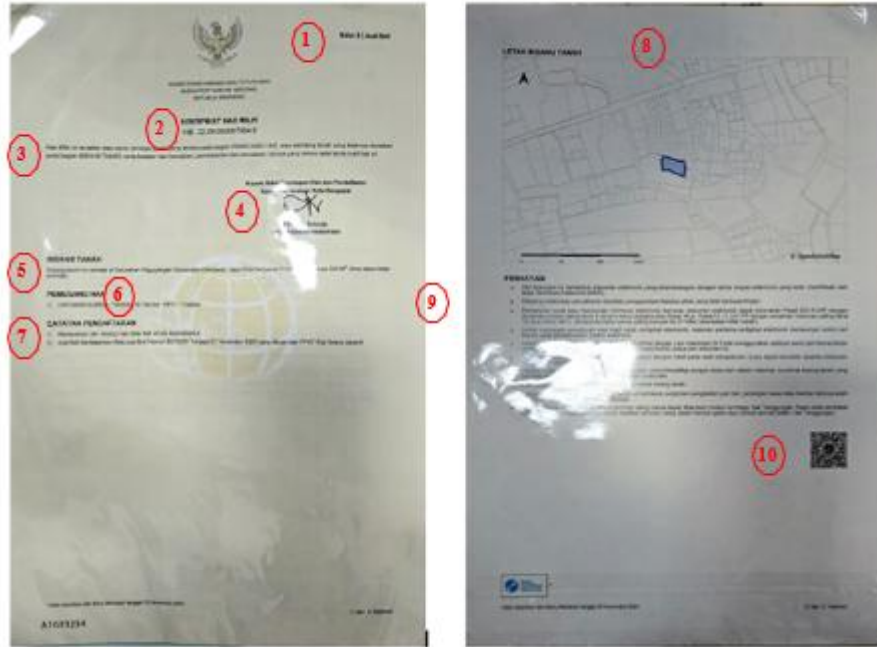


Figure 6. Display of Sert-EI official copy
Source: Author's Processed Results, 2024

Sert-EI content description:

- 1) Certificate Edition Number and Service Type Information. The edition information indicates the certificate's creation history.
- 2) Rights Type and NIB. The correct type is filled in according to the rights recorded or registered. The NIB uses a 14-digit format.
- 3) Opening Sentence: Contains an introductory sentence regarding land ownership.
- 4) Electronic Signature: Serves as a security measure for electronic documents.
- 5) Land Plot Information: Contains a description of the location of the land plot, the term, and the expiration date of the rights.
- 6) Rights Holder Information: Contains a description of the land plot owner.
- 7) Registration Record Information: Contains a description of the basis for land acquisition and the latest recorded status.
- 8) Land Plot Location Information: Contains a description of the location of the land plot and the area measured.
- 9) Disclaimer: Contains a note for the rights holder's attention.
- 10) QR Code: Links to the electronic document with the latest status.

If the official copy of the Certificate-Electronic is lost or damaged, the rights holder does not need to request a printing of the official copy but can simply reprint it independently on plain paper

by accessing the original Certificate-Electronic in an electronic safe. Printed certificates, whether official copies or plain copies, serve only as copies or printed documents. The original Certificate-Electronic is a digital file in the form of an Electronic Document (PDF) stored in an electronic safe. To ensure the authenticity of both printed and digital certificates, the rights holder can digitally verify the authenticity of the Certificate-Electronic by accessing the QR code printed on the Certificate-Electronic. QR code verification can only be performed through the "Touch Tanahku" application.

9. Electronic Certificates in the "Touch Tanahku" Application

The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency has launched the "Touch Tanahku" application to address the challenges of technological developments, which require the public to easily fulfill their land information needs. In the era of Society 5.0, the "Touch Tanahku" application is a crucial innovation for increasing the efficiency and accessibility of public services, particularly in land management in Indonesia. "Touch My Land" is also a crucial innovation to improve the efficiency and accessibility of public services, particularly in land management in Indonesia (Noer et al., 2024). The "Touch My Land" application can be downloaded for free via the Play Store or App Store. The objectives of this application include

- 1) To serve as a medium for socializing strategic programs of the ATR/BPN;
- 2) To convey information on land ownership status (blocking, expiration of rights, file status);
- 3) To inventory state property that has not been mapped by other agencies;
- 4) To assist licensed surveyors/cadastral surveyors in locating land plots in the field;
- 5) To obtain data on a land plot before conducting a sale or purchase transaction or mortgage;
- 6) To serve as a reminder of our land ownership certificates and our obligations (collateral);
- 7) To understand the costs, timeframe, and requirements of ATR/BPN services to increase the transparency of land services;
- 8) To track the status of application files at the Land Office to improve accountability in service delivery.



Figure 7. Features of the *Touch My Land Application*

Source: Author Documentation, 2024

One of the features of the "Touch Tanahku" application is certificate information. This feature displays the ownership list and certificate details. If the physical certificate is not yet available on the certificate ownership list, users can report the missing certificate information. This feature also includes a collateral list, which displays collateral code information for the certificate. The list of certificates associated with the account owner will be displayed as an ownership list based on the National Identification Number (NIK). Users can tap the list to view certificate details. From these certificate details, users can view the location of their land parcel on a map or assist in plotting the land parcel if it is not yet mapped. This functionality offers convenience for verified users, eliminating the need to remember their certificate numbers throughout Indonesia. If ownership is not yet visible, users can report it through the application.

With the "Touch Tanahku" application, the public can easily access land information. For example, they can obtain information about the land before buying or selling it. The public can also accurately determine the requirements for name changes and other land service information, including requirements, timeframes, and costs.

10. Evidence in Court

Electronic certificates and analog certificates have equal standing as valid evidence and provide legal certainty for land rights holders in land registration in Indonesia (Juliyanti et al., 2024). Article 5, paragraphs (1) and (2) of the Law on Electronic Information and Transactions, states that:

- a) Electronic information and/or electronic documents and/or printouts thereof constitute valid legal evidence;
- b) Electronic information and/or electronic documents and/or printouts as referred to in paragraph (1) constitute an extension of valid evidence in accordance with applicable procedural law in Indonesia;
- c) Electronic information and electronic documents are declared valid if they use an electronic system in accordance with the provisions stipulated in this law.

Based on the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 3 of 2023, Electronic Land Books and Land Title Certificates/Electronic Apartment Ownership Rights are considered Electronic Documents in accordance with Law No. 11 of 2008 concerning Electronic Information and Transactions and therefore can be used as valid evidence in court. To prove these rights, Electronic Land Books can be printed and accompanied by an Electronic Certificate and validation sheet based on the land registration history.

11. Implementation Challenges at the Denpasar City Land Office

Based on interviews conducted by the author, the main challenge in implementing electronic certificates is preparing valid data. The validation process involves re-examining the conformity of the Measurement Letter and Land Book, given that analog certificates issued have used various recording methods over time. Of the 200,000 existing Land Books, more than 97% have been validated to

become Electronic-Ready Data. The following graph shows the readiness of electronic certificate implementation as of December 2024.

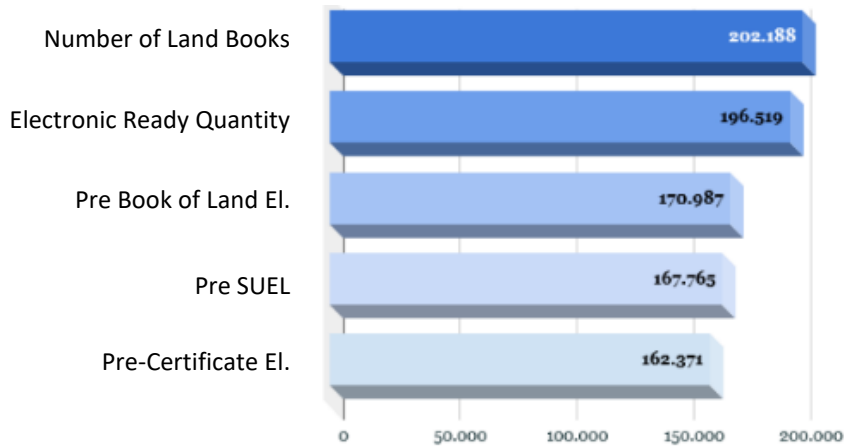


Figure 8. Readiness for Sert-EI Implementation of Pre SUEI, BTEI, Sert-E Activities
Source: Admin Kantah, 2024

The Denpasar City Land Office is actively working to increase the amount of Electronic-Ready Data for the media transfer process. In this regard, the Denpasar City Land Office has appointed a media transfer officer through Decree of the Head of the Denpasar City Land Office No. 91/SK-51.71.HP.03.05/X/2024.

One of the issues experienced by the Denpasar City Land Office was that the barcodes on the issued e-certificates could not be read by the application (they could not be scanned). An inspection determined that a printer issue was the cause of this problem. We replaced the printer to resolve this issue, enabling the application to scan the printed e-certificates. Should the public be unable to read the e-certificates they have already received, a mechanism exists to replace the non-PNBP certificates.

C. Conclusion

The Denpasar City Land Office is the first to implement the Electronic Certificate policy in Indonesia in accordance with Decree of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia No. 1669/SK-HR.02/X/2023. Since implementing the Sert-EI policy, all land registration output has been in the form of electronic certificates. The implementation of electronic certificates has improved land administration, including improved data security, enabling data backup in remote locations, thus preventing regional disasters. Electronic certificates have improved the uniformity of recording, validity, and accuracy of land information, as well as the speed of information retrieval.

Effective communication is key to the successful implementation of the electronic certificate policy at the Denpasar City Land Office. The Denpasar City Land Office consistently communicates the electronic certificate policy to employees, the public, and other relevant stakeholders. The information dissemination channels are diverse and comprehensive, including outreach activities on

various platforms, internal meetings, social media, radio, brochures, banners, as well as direct public outreach at various opportunities. In terms of human resources, the Denpasar City Land Office is relatively adequate and competent in carrying out tasks related to the Sert-EI service.

The strong commitment of the leadership, namely the Head of the Denpasar City Land Office, to implementing the e-certificate policy is clearly felt by all employees within the Denpasar City Land Office. Providing an understanding of Sert-EI at various opportunities to each individual has fostered a positive attitude towards the Sert-EI policy. Employees at the Denpasar City Land Office are not only implementing the certification process but also actively participating as users of the e-certificate service and as agents of communication within their families and the community. One effort to improve the effectiveness of Sert-EI service implementation at the Denpasar City Land Office is to establish a broader delegation of authority from the Head of the Survey and Mapping Section to the Korsub/Functional Official. This step has been quite effective in eliminating bottlenecks in the Sert-EI service, which is relatively new at the Ministry of ATR/BPN. Although the overall implementation of the Sert-EI policy has been successful, the author recommends that the Denpasar City Land Office make adjustments to the Land Service Standards by adding updates related to the electronic certificate media transfer service. Printer failure that results in the inability to read the electronic certificate QC code could be detrimental to rights holders. Therefore, the Denpasar City Land Office and other land offices must ensure the performance of their equipment.

Bibliography

- Adi, Y. C. F. N. (2024). *Laporan Kinerja Kantor Pertanahan Kota Denpasar 2023*.
- Adinegoro, K. R. R. (2023). Tantangan Implementasi Sertipikat Tanah Elektronik di Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional Republik Indonesia. *Jurnal Ilmu Kenotariatan*, 4(2). <https://doi.org/10.19184/jik.v4i2.41314>
- Alimuddin, N. H. (2021). Implementasi Sertifikat Elektronik Sebagai Jaminan Kepastian Hukum Kepemilikan Hak Atas Tanah di Indonesia. *SASI*, 27(3), 335. <https://doi.org/10.47268/sasi.v27i3.509>
- Amrin, R. N., Imantaka, A. H., Yanengga, E. T. N., & Maulida, G. C. (2022). Status hukum hak atas tanah yang terkena bencana alam. *Tunas Agraria*, 5(1), 65-76.
- Anwary, A. (2023). Kesiapsiagaan Perpustakaan Dalam Menghadapi Bencana Banjir (Studi Kasus pada Perpustakaan Daerah Kabupaten Hulu Sungai Tengah). *Jurnal Kewarganegaraan*, 7(2), 2636-2647.
- Aries Mujiburohman, D. (2021). *Transformasi Dari Kertas Ke Elektronik: Telaah Yuridis Dan Teknis Sertipikat Tanah Elektronik*. 7(1), 57–67. <https://doi.org/10.31292/bhumi.v7i1.472>
- Arif Suhattanto, M., Aries Mujiburohman, D., Sarjita, Sukayadi, & Tinggi Pertanahan Nasional Jl Tata Bumi No, S. (2021). Kualitas Data Pertanahan Menuju Pelayanan Sertifikat Tanah Elektronik. In *Widya Bhumi* (Vol. 1, Issue 2).
- Assidiqih, G., & Susilowati, I. F. (2023). Tinjauan Yuridis Sertifikat Tanah Elektronik Sebagai Alat Bukti Kepemilikan Tanah di Indonesia. *Novum: Jurnal Hukum*, 10. <https://ejournal.unesa.ac.id/index.php/novum/article/view/58097/45398>
- Badan Pusat Statistik Kota Denpasar. (2023). *Kota Denpasar Dalam Angka, Denpasar Municipality in Figures 2023*.

- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Edward III, G.C. (1984). *Public Policy Implementing*. JaiPress Inc.
- Halim, K. V., & Gunadi, A. (2024). Transformation of Land Registration Through Electronic Certificates to Overcome Overlapping Certificates in Indonesia. *Journal of Law, Politic and Humanities*, 5(1), 354-360.
- Ilham, M., Putranto, D., & Mansyur, A. (2023). Urgensi Penerapan Sertipikat Tanah Secara Elektronik. *Jurnal Ilmiah Hukum Kenotariatan*, 12(1). <https://doi.org/10.28946/rpt.v12i1.2645>
- Juliyanti, N. K. E. D., Dharsana, I. M. P., & Ujianti, N. M. P. (2024). Perlindungan Hukum Terhadap Pemegang Sertifikat Tanah Digital Dikaitkan Dengan Keamanan Data Pribadi. *Maret*, 1(1), 2746–5039. <https://doi.org/10.55637/jph.4.1.6590.91-96>
- Kamali Martin, E., & Adiva Prita Ramadania, I. (2025). Tinjauan Etika Dalam Penerapan Sertifikat Tanah Elektronik: Mencegah Pemalsuan Dan Kekacauan Administrasi. *Jurnal Administrasi Publik Dan Pemerintahan STISIP Imam Bonjol (SIMBOL)*, 4(1), 2025. <https://doi.org/10.55850/simbol.v2i1>
- Masri, E., & Hirwansyah. (2023). Kebijakan Penerbitan Sertipikat Elektronik Pada Sistem Pendaftaran Tanah di Indonesia Untuk Mewujudkan Kepastian Hukum. *KRTHA BHAYANGKARA*, 17(1), 157–174. <https://doi.org/10.31599/krtha.v17i1.2109>
- Noer, R. T., Semarang, U. N., Niravita, A., Adymas, M., Fikri, H., & Nugroho, H. (2024). Transformasi Digital Pendaftaran Tanah: Tantangan dan Efektivitas Implementasi Aplikasi Sentuh Tanahku dalam Era Society 5.0. *Jurnal Ilmiah Nusantara (JINU)*, 1(6), 250–261. <https://doi.org/10.61722/jinu.v1i6.2806>
- Pambudi, N. A. (2018). Geothermal power generation in Indonesia, a country within the ring of fire: Current status, future development and policy. *Renewable and Sustainable Energy Reviews*, 81, 2893-2901.
- Paulina, R. (2024). Analisis Pelaksanaan Mitigasi Bencana Terhadap Perlindungan Koleksi Pada Dinas Perpustakaan Dan Kearsipan Aceh (Doctoral dissertation, UIN Ar-Raniry Fakultas Adab dan Humaniora).
- Rulinawati, & Aisyah, S. (2023). *Studi Mandiri* (1st ed.). Universitas Terbuka.
- Salim, M. N., Rineksi, T. W., & Wulan, D. R. (2022). Politik Kelembagaan Agraria Indonesia: Jalan Terjal Pembentukan Kelembagaan dan Kebijakan Agraria, 1955-2022.
- Silviana, A. (2021). Urgensi Sertipikat Tanah Elektronik Dalam Sistem Hukum Pendaftaran Tanah di Indonesia. In *Online Administrative Law & Governance Journal* (Vol. 4). <https://properti.kompas.com/read/2020/12/10/164926321/baru-82-juta-bidang->
- Setyaningsih, R., Perdana, P. N., & Khairunnisa, H. (2023). Analisis Pengendalian Internal Pengadaan Barang dan Jasa Pemerintah Pada Badan Pertanahan Nasional (BPN) Cilacap. *Jurnal Akuntansi, Perpajakan dan Auditing*, 4(2), 540-575.
- Sumardjono, M. S. (2009). *Kebijakan Pertanahan: Antara Regulasi dan Implementasi* (5th ed.). Kompas.
- Wulan, D. R., Salim, M. N., & Rineksi, T. W. (2022). Re-Scanning the Electronic Certificate Infrastructure (Sertipikat-el). *Marcapada: Jurnal Kebijakan Pertanahan*, 2(1), 12–23. <https://doi.org/10.31292/mj.v2i1.24>
- Wulan Titik Andari, D., & Aries Mujiburohman, D. (2023). Aspek Hukum Layanan Sertifikat Tanah Elektronik. *Al' Adl Jurnal Hukum*.

Peraturan Perundang-Undangan

- Undang-Undang No. 5 Tahun 1960 tentang Peraturan Dasar Pokok-Pokok Agraria.
- Peraturan Menteri Agraria dan Tata Ruang/Kepala Badan Pertanahan Nasional Nomor 17 Tahun 2020 tentang Organisasi dan Tata Kerja Kantor Wilayah Badan Pertanahan Nasional dan Kantor Pertanahan

Peraturan Menteri Agraria dan Tata Ruang / Kepala Badan Pertanahan Nasional Nomor 1 Tahun 2021 tentang Sertipikat Elektronik.

Peraturan Menteri Agraria dan Tata Ruang/ Kepala Badan Pertanahan Nasional Nomor 3 Tahun 2023 tentang Penerbitan Dokumen Elektronik dalam Kegiatan Pendaftaran Tanah.

Undang-Undang Nomor 11 Tahun 2008 tentang informasi dan Transaksi Elektronik

Keputusan Kepala Kantor Pertanahan Kota Denpasar Nomor 13/SK-51.71.UP.04.07/I/2024

Keputusan Kepala Kantor Pertanahan Kota Denpasar Nomor: 90/SK-51.71.UP.02.03/X/2024

Keputusan Kepala Kantor Pertanahan Kota Denpasar Nomor: 47.2/SK-51.71.UP.04.04/IV/2023

Tugas Pelimpahan kewenangan Nomor: 176/ST-51.71.IP.02.02/I/2024.

Keputusan Kepala Kantor Pertanahan Kota Denpasar Nomor: 91/SK-51.71. HP. 03.05/X/2024

Keputusan Menteri Agraria dan Tata Ruang / Kepala Badan Pertanahan Nasional Republik Indonesia Nomor 1669/SK-HR.02/X/2023