



Digital Land Transformation: Optimizing the Issuance of Electronic Land Certificates by BPN Gorontalo City

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Abstract. This research aims to analyze the optimization of the issuance of electronic land certificates in Gorontalo City and find out the efforts of the government (BPN) Gorontalo City in optimizing the issuance of electronic land certificates. This type of research is empirical legal research. This method involves a juridical sociological approach, namely an approach that starts from existing legal rules or norms and then harmonizes with the reality that exists in society. The results of this study indicate that the issuance of electronic land certificates (E-Certificate) in Gorontalo city is considered not optimal. Researchers found that there are 3 out of 4 indicators that have not been maximized in its implementation, namely the readiness of land office infrastructure, policy implementation, and public understanding. Furthermore, the efforts that have been made by BPN Gorontalo City in optimizing the issuance of electronic land certificates are conducting Socialization and Education to the Public, Improving Information Technology Infrastructure, Cooperation with Stakeholders, Increasing Human Resources Capacity and Resolving Obstacles and Constraints.

Keywords: Electronic Land Certificate, Legal Certainty, Optimization.

1. INTRODUCTION

Land is a blessing from the Almighty God which has a very important role because land means the origin of the welfare, prosperity, and life of the people, Land is also part of the earth (Pontoh, Junus, & Abdussamad, 2023). The 1945 Constitution of the Unitary Republic of Indonesia as published in Berita Republik Indonesia Tahun II Number 7 Dated February 15, 1946 regulates this in Article 33 paragraph (3) which reads:

“The land, water and natural resources contained therein shall be controlled by the State and utilized for the greatest prosperity of the people.”

The arrangement of the article shows that every Citizens are entitled to own land as a residence to live and earn a living. Therefore, every individual residing within The sovereign land of the Republic of Indonesia must obey and respect the provisions of the constitution (Ratih, 2021).

Based on the state's right to control, the government has the authority to grant land rights to an individual, a group of people, or a legal entity. The granting of rights means the granting of authority To utilize the area encompassed within the specified limits set by the laws and regulations. (Mustofa & Suratman, 2018).

Land then becomes one of the objects of regulation that is quite complex in the land law system in Indonesia, both in terms of its acquisition, management and settlement of disputes that sometimes arise from ownership of land rights (Nafan, 2022). The great influence

of land on people's lives is of course also a great opportunity for problems to arise regarding land rights in the land sector. The opportunity for disputes in land rights is wide open (Munandar, 2020).

Realizing the importance of the purpose of the land, at this time in the management of land issues directly or indirectly must always be directed at the realization of facilities and infrastructure to provide support for the activities of the enforcement of orderly land law and the assurance of legal certainty in land ownership rights. Land use that is supported and guaranteed legal certainty will create community peace and encourage the implementation of development in all communities. The acquisition of rights then needs to be officially recorded at the National Land Agency (BPN) issues certificates as a safeguard for legal certainty of land ownership rights.

Providing legal certainty of land rights in fact there are still many agrarian problems that occur at the National Land Agency, mostly about land disputes or ownership of land rights with certificate evidence. Land problems occur because there are legal subjects who own a plot of land and in their ownership there are other people who recognize that they have the same rights to a land object (Hasan, Dungga, & Imran, 2023). One example that has occurred in Gorontalo city is a plot of land whose object of dispute is located on Prof. Aloe Saboe road, Dembe II village, North City sub-district, Gorontalo City with the number of certificate of ownership right Number: 768/Dembe II, situation drawing Number: 1046/1997 dated November 10, 1997 Area: 1.992 M2. The land is being disputed because the land has two ownership rights, each of which has a certificate with the same location and size.

The advancement of information technology utilization in line with the increasingly dynamic problems of land rights registration in Indonesia, the government seeks to improve the management, regulation and management of land. One of them is innovating in land rights registration. the Agrarian Affairs and Spatial Planning Ministry/National Land Agency (ATR/BPN) plans to replace conventional land certificates with electronic certificates.

The big goal of this change is to address the issue of duplication of certificates of ownership of land parcels, so as to reduce the chances of conflict and even minimize the occurrence of certificate forgery. In addition, this innovative effort is a form of state concern or state presence in resolving land issues, where land is the main key for citizens to be able to live a decent life (Ratih, 2021).

Digital transformation of the public sector is the the process of and development and applying information and communication technology designed to improve efficiency and the efficiency of public services and the enhancement of community involvement in the

development process (Adinegoro, 2023). including in terms of land services that must create digital-based services. Land certificates that were previously carried out conventionally are now transformed into electronic land certificates. Electronic land certificates are land ownership documents issued in a digital format. An important achievement in the modernization The effectiveness of the land tenure registration system is evidenced by guaranteeing public access to electronic land registration and establishing the necessary infrastructure for the electronic registration process.

The issuance of electronic land certificates has already been implemented since the enactment regulated under the Minister of ATR/Head of BPN Regulation Number 3 of 2023 concerning Electronic Land Certificates. While the development of the existence of electronic land certificates in Gorontalo can be seen through the Gorontalo City National Land Agency (BPN) Statistics data related to Conventional Land Certificates and Electronic Land Certificates in 2024.

Table 1. Number of Conventional Land Certificates in Gorontalo City in 2024

No.	Certificate Type	Amount
1.	Property Rights	40.691
2.	Building Rights Title	7.359
3.	Right to Use	696
4.	Management Rights	6
5.	Waqf Land Rights	149
Total		48.901

Source: National Land Agency Office (BPN) Gorontalo City, Year 2024

Table 2. Number of Electronic Land Certificates Gorontalo City Year 2024

No.	Certificate Type	Amount
1.	Property Rights	260
2.	Building Rights Title	220
3.	Right to Use	53
4.	Management Rights	0
5.	Waqf Land Rights	0
Total		533

Source: National Land Agency Office (BPN) Gorontalo City, Year 2024

The data proves that there is a significant difference between the issuance of Conventional Land Certificates and Electronic Land Certificates in Gorontalo City, which shows that there are still many analog/conventional land certificates. Whereas The issuance of Electronic Land Certificates is intended to facilitate and speed up the procedure for acquiring Land Certificates while minimizing the risk of loss and forgery. As the advantages of electronic land certificates compared to conventional certificates are (1) more informative in terms of appearance, (2) easier and faster, (3) stored in electronic form does not need to be printed, (4) safe from disasters such as fires, floods and landslides.

The advantages of electronic land certificates compared to conventional land certificates are expected to provide a sense of security from land rights holders. For example, cases of forgery of land certificates or multiple land certificates often occur in conventional land certificates. It is different with electronic land certificates because it can be directly proven by checking the electronic document through the Touch My Land application that has been provided and the right holder data, physical data, and juridical data of valid land plots will appear. So, this provides a sense of security and comfort to land rights owners. as regulated under the Minister of ATR/Head of BPN Regulation Number 3 of 2023 concerning Electronic Land Certificates as published in State Gazette Number 461 of 2023. Article 4 which reads:

“(1) The electronic system as referred to in article 3 paragraph (2) produces data, electronic information, and / or electronic documents. (2) Electronic documents as referred to in paragraph (1) contain valid and authentic data of the right holder, physical data, and juridical data of the land plot.”

In addition, Electronic Land Certificates are documents that are considered valid by law, this is clarified in the sound of Law Number 25 of 2009 concerning Public Services as contained in State Gazette Number 112 of 2009 in Article 24 which reads:

“Documents, deeds, and the like in the form of electronic or non-electronic products in the implementation of public services are declared valid in accordance with statutory regulations.”

After the researchers did a further deepening on the data found in the field showed that there were still 48,901 conventional certificates compared to certificates that had switched to electronic certificates with 533 certificates. This figure shows a significant difference considering that the issuance of electronic Land certificates are a novel concept within the community so that it requires the role and efforts of the Gorontalo City BPN in socializing and educating the public regarding the issuance of electronic land certificates so that its implementation can be carried out optimally.

So that this is what makes researchers interested in discussing further in this journal with the title “Digital Land Transformation: Optimizing The Issuance Of Electronic Land Certificates By Bpn Gorontalo City”.

2. RESEARCH METHODS

This study employs empirical legal research. Empirical legal research involves the identification of legal aspects and the examination of the effectiveness of law (Dewata & Achmad, 2017). The type of approach applied in this research is a juridical sociological approach. The juridical sociological approach is an approach that starts from the existing laws or norms and then harmonizes with the reality that exists in society. So that with this approach,

the participation of researchers is needed to be able to go down to the field to see the application of norms or rules of law to people's lives. Based on the sociological juridical problem approach, the researcher himself can determine where the data will be obtained, namely through field research and library research.

3. RESULTS AND DISCUSSION

Optimizing the Issuance of Electronic Land Certificates in Gorontalo City in Providing Legal Certainty to the Community

The idea of the Pancasila-based rule of law serves as the foundation and legal policy framework for strategies to protect land rights holders and ensure the right to utilize natural resources. The theory of the rule of law is a consequence of adopting the principle of a law-based state, as reflected in the philosophy and spirit of the Indonesian nation namely, the principles of Pancasila and the 1945 Constitution, which outline the objectives of Indonesia's rule of law. This Land registration is intended To ensure legal certainty, commonly referred to as *rechtskadaster* or legal cadaster (Afif & Mahfud, 2023).

Land provisions in Indonesia certainly aim to change the fate of Indonesian citizens in connection with the control and ownership of land rights and to prevent the misuse of land rights that do not belong to them. The acquisition of the aforementioned rights must then be registered through the National Land Agency (BPN) to acquire a certificate, which serves As a safeguard for legal certainty in land ownership rights.

Statistics from the National Land Agency (BPN) of Gorontalo City show that there have been 48,901 conventional land certificates, consisting of 40,691 certificates of property rights, 7,359 certificates of building rights, 696 certificates of use rights, 6 certificates of management rights and 149 certificates of waqf land. However, the reality is that land certificates, which are the result of various government programs, inevitably still leave gaps in terms of guarantees of legal certainty that have the potential to harm the community, such as several cases that have occurred, namely cases forgery of land certificates, instances regarding duplicate or overlapping land certificates, along with the emergence of land mafias are major factors behind various land disputes that ultimately disadvantage the community.

These land problems show resulting in land rights certificates no longer providing a guarantee of legal certainty for the community. This means that certificates of rights to land parcels that have been registered are also likely to still hold a A multitude of issues both concerning other parties and concerning the identity of the rights holder as stated in the land

rights certificate. And this is what is noted that land certificates in physical form do not yet guarantee legal certainty.

For example, the case found by the researcher is a conventional land certificate whose object of dispute is located in the city of Gorontalo, located on Prof. Aloe Saboe Street, Dembe II Village, North City Subdistrict, Gorontalo City, which has two ownership rights, each of which has a certificate of the same land, place and size. The case illustrates that conventional land certificates still allow land disputes to occur in the form of certificates that have 2 property rights (Double Certificate) which will certainly be a gap in terms of legal certainty guarantees that can harm the community.

In line with technological advancements, The government, via the Ministry of Agrarian Affairs and the National Land Agency, has introduced A novel breakthrough that keeps pace with digital developments. This innovation is more effective, efficient, and modern, as societal changes naturally lead to evolving legal needs, particularly in the land sector, making such advancements inevitable. Additionally, to achieve The modernization of land services is being carried out by the government through the Ministry of Agrarian Affairs and The National Land Agency implements land services based on electronic systems, including the issuance of documents in digital format.

The development of the world that all demands practicality so as to create various conveniences through the use of electronics makes written / letter evidence increasingly, with the use of electronic documents. For evidentiary purposes, Minister of Agrarian Affairs and Spatial Planning/Head of BPN Regulation Number 3 of 2023 on Electronic Certificates Article 6 Paragraph (2) explains that electronic certificates can be accessed via an electronic system in case of a dispute in court as regulated in Article 1866 BW. based on legislation between analog Land certificates and electronic land certificates hold the same legal validity, namely As proof of land ownership rights and evidence As evidence In legal proceedings in the case of a dispute in the future.

Just Analog certificates ensure legal certainty for land rights holders, with proof in the form of certificates guaranteed by law. Likewise with electronic land certificates, the presence of minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia Regulation Number 3 of 2023 on Electronic Certificates is intended to ensure legal certainty for holders of electronic land certificates.

The assurance of legal certainty in land registration encompasses assurance regarding The status of land ownership rights, the identity regarding legal subjects and the assurance of legal objects (Afif & Mahfud, 2023). Therefore, it is seen that the importance of transferring

conventional land certificates to electronic land certificates. The issuance of electronic land certificates is not only a solution to various administrative problems, such as The potential for loss or falsification of physical documents, but also provides convenience in accessing real-time land data. However, the implementation of this policy requires clear indicators to ensure its success.

The issuance of electronic land certificates in Gorontalo city in 2024 based on recent interviews conducted by researchers with the BPN shows that the position of media transfer is at 5,800 land books or 10% of the number of land books and has been achieved. However, researchers set several indicators to measure the extent of optimization of electronic land certificate issuance.

The indicator approach allows researchers to measure the success of this program objectively. Researchers provided several factors to consider in formulating indicators of success in optimizing the issuance of electronic land certificates. Therefore, a discussion of the indicators of electronic land certificate issuance is important to ensure that this program can run as expected and provide optimal benefits to the community as follows:

1. Land Office Infrastructure Readiness

In the ever-evolving digital era, modernization in various public service sectors is a necessity. One of the strategic steps taken By the Indonesian government, this is carried out through the implementation of electronic land certificates, as stipulated in the Minister of ATR/BPN Regulation Number 3 of 2023 concerning Electronic Certificates. Electronic land certificates are expected to improve efficiency and security in land data management. This step not only supports the efficiency of land administration, but also strengthens public trust in digital-based public services.

However, the success of this implementation depends not only on regulations and policies, but also on infrastructure readiness at the operational level, especially in land offices. This readiness covers various aspects, ranging from information technology and human resource capacity.

The following is a discussion of the extent to which the land office infrastructure is ready to support the optimization of electronic land certificate issuance.

1) Information and Communication Technology (ICT)

Information technology infrastructure is the backbone of electronic land certificate issuance. The system requires a stable internet network and adequate hardware and software. Land offices must have fast and stable internet access to

support data transmission and management. Computers, servers and data storage devices must have sufficient capacity to handle large volumes of data.

As interviews have been conducted with Mr. Andri Putra Harmain, S.Tr as the Coordinator of the Substance Group for Land Rights Maintenance, Spatial Planning, and PPAT Development who explained that the Gorontalo City National Land Agency (BPN) Office in order to optimize the issuance of electronic land certificates has used technology in the form of:

- a. Land Office Computerization
- b. Application si Tata (Validate Our Land)
- c. Touch My Land Application
- d. Autodesk Map for land parcel verification.

2) Human Resources (HR)

Digital transformation requires competent human resources. Therefore, the land office must ensure the readiness of experts and provide training and development in the stages of issuing electronic land certificates. So that this will be one of the supports in optimizing the issuance of electronic land certificates.

Researchers then conducted interviews to find out how the readiness of the human resources of the Gorontalo City BPN Office in optimizing the issuance of electronic land certificates. Researchers found that so far training has been carried out for human resources in the Gorontalo City BPN Office but only in the form of Zoom. As The findings from interviews conducted by researchers with Mr. Andri Putra Harmain, S.Tr as the Coordinator of the Substance Group for Land Rights Maintenance, Spatial Planning, and PPAT Development explained that:

“So far, the training has only been in the form of Zoom with the central ministry (data and information center/Pusdatin) of the Ministry of Agrarian Affairs and Spatial Planning/Land Agency.”(Harmain, 2024)

Researchers consider that the training conducted online (via Zoom) is not yet optimal. Because the optimal method allows for less effective training implementation. It could be that when the training is carried out online (via Zoom) participants are late, participants leave first, signal/network disruptions that allow the delivery or receipt of information that is less clear and other technical problems. So the researcher views that to optimize training to the human resources of the Gorontalo City BPN Office, it also needs to be held offline or face-to-face.

2. Data Security

Data security is a top priority in the issuance of electronic land certificates, given the sensitive nature of the information contained therein. As the results of the interview explained that the Central Ministry backs up and maintains data and protects data from cyber attacks.

Information that includes the identity of the owner, land boundaries, land rights, and historical records that have the potential to cause disputes if misused. Therefore, applying encryption technology, layered authentication, and digital-based surveillance systems are important steps to ensure that data is protected from unauthorized access, theft, or manipulation so that it allows not everyone to have access. As the results of interviews conducted by researchers who explained that:

“Parties that have access are the Head of the Land Office, Head of the Measurement Section and Head of the PHP Section as well as the Coordinator of the Measurement Survey Section and the Rights Determination and Registration Section.”(Harmain, 2024)

In addition, if there is misuse of data. then the BPN will ensure the correct data by matching supporting data that is still in manual form which is still stored in the Land Office. This is explained in an interview conducted with the BPN who said:

“Supporting data for the issuance of land certificates and for other data maintenance is still in manual form and is still stored in the Land Office so that if there is misuse of data, the supporting data will be used to reconfirm the subject of the right.”(Harmain, 2024)

The Touch My Land application used to view electronic land certificates also has a clear history. So that it can be known when and who has accessed the electronic land certificate. As an interview conducted with Mr. Andri Putra Harmain, S.Tr As the Coordinator of the Substance Group for Land Rights Maintenance, Spatial Planning, and PPAT Development who said:

“In the touch my land application used to view electronic land certificates, there is a watermark of the name and time written on the electronic land certificate if you want to open it. The history is clear so that it can be seen when and who accessed the certificate. Because everyone who has the Barcode of the certificate can see the certificate.”(Harmain, 2024)

Researchers consider that data security is a top priority, and the technologies implemented, such as encryption, layered authentication, and digital surveillance systems, ensure sensitive information is protected from misuse. Support for transparency features in the Touch My Land application, such as access history, further strengthens public trust in this system. This effort is expected to support more efficient, secure, and reliable land management. So that this provides data security of land rights owners is well maintained and can support in optimizing the issuance of electronic land certificates.

3. Policy implementation

Policy implementation is a strategic step to ensure that a program or policy runs in accordance with the predetermined objectives. To optimize the issuance of electronic land certificates, policy implementation indicators play a crucial role in assessing the effectiveness, efficiency and the continuity of the policy. The following is a discussion of the indicators:

1) Policy Clarity and Consistency

Clarity in the rules and procedures underlying the issuance of electronic land certificates is essential so that all stakeholders understand the steps to be taken. The basic regulation on the issuance of electronic land certificates is governed by Ministerial Regulation of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 3 of 2023 on Electronic Land Certificates, which sets out the principles for implementing digital-based land certification. This regulation covers various technical aspects, including data security, document digitization mechanisms, and procedures for storing and issuing certificates electronically. The objective is to ensure legal certainty to landowners, accelerate the land administration process, and encourage the modernization of public services in the agrarian sector.

2) Communication and Socialization

Good communication between policy makers, implementers, and the community is needed to build understanding and trust. In the implementation of the issuance of electronic land certificates, good communication is needed between the BPN and the community. so that in the implementation of the issuance of electronic certificates there must be socialization from the BPN to the community. BPN Gorontalo City after the interview said that BPN has conducted socialization to the community as the answer from Mr. Andri Putra Harmain, S.Tr as Coordinator of the Substance Group for Land Rights Maintenance, Spatial Planning, and PPAT Development who said:

“Socialization was carried out through videotron, Social Media, Direct Socialization to PPAT and the community facilitated by the Village Office.”(Harmain, 2024)

Researchers after interviewing several people who do not understand about electronic land certificates. In fact, when asked about socialization activities carried out by BPN, the community answered that they had never been as well as the answer to the interview conducted with Mrs. Ans Pautina. In addition, the answer from Mr. Ramdan

Pido, who is also the head of the RT in South Heledulaa village, when asked about socialization activities by BPN, he said:

“Not yet. Previously, BPN had conducted socialization but not related to electronic land certificates.”(Pido, 2024)

Based on the author's observations after conducting interviews with several parties. So the researcher concludes findings from interviews conducted with the BPN and the community. researchers consider that the socialization carried out by the BPN has not been effective and thorough to the community. This results in many people who do not understand or know information about electronic land certificates.

4. Community Understanding

Based on observations made. Researchers see that the level Public understanding of the issuance of electronic land certificates remains low. Researchers try to explore the community's understanding of the issuance of electronic land certificates by going directly to the field to observe the community's understanding of electronic land certificates by conducting direct interviews with the community. Based on interviews conducted with Mrs. Ans Pautina and Mr. Rahmat Pido when asked about having heard or known about the electronic land certificate issuance program, both answered with the same answer, namely “never” answered the two sources.

Researchers in conducting observations also found that the community is still lacking in understanding the purpose and benefits of issuing electronic land certificates. Like the joint interview conducted by researchers with Mr. Rahmat Pido, who when asked for his opinion regarding The issuance of electronic land certificates by the government said:

“If it is to be transferred to electronic, I do not agree. Because if it is not transferred to electronic land certificates, there will be many double or fake certificates.”(Pido, 2024)

The statement from Mr. Ramdan Pido shows that there are still community concerns about the electronic land certificate issuance program. This shows that people do not understand the real purpose of issuing electronic land certificates. Whereas the objective of issuing electronic land certificates is to prevent land disputes such as multiple land certificates or fake land certificates. So, this is what influences some people still do not want to transfer their land certificates to electronic land certificates because of concerns by The general public concerning The implementation of electronic land certificate issuance by the government.

From the discussion above, there are 4 indicators used by researchers in measuring the success of optimizing the issuance of electronic land certificates. Of the four laws, researchers see that three other laws are considered not optimal in the issuance of electronic land certificates, including:

First, the Land Office Infrastructure Readiness Indicator. In providing training to human resources of BPN Gorontalo City so far, it has only been carried out in the form of online which the researcher considers is still not optimal. Therefore, the researcher suggests that in order to optimize the implementation of electronic land certificate issuance by BPN, it must be supported by training for BPN HR Gorontalo City Offline in order to improve the quality of BPN HR Gorontalo City in providing effective services for the publik in implementing the electronic land certificate issuance program.

Second, Policy Implementation Indicators. This law has been supported by good and clear policies. However, the delivery to the community is still considered lacking by researchers. The socialization carried out by BPN Gorontalo City is considered not comprehensive so that there are still people who do not know about this program. The researcher suggested that the Gorontalo City BPN could be more aggressive in conducting socialization. To further maximize the BPN can involve or cooperate with village / kelurahan officials so that information from the issuance of electronic land certificates can be spread more widely among the community.

Third, Indicators of Public Understanding. Given that the electronic land certificate issuance program is considered a new thing. So that many people are still unfamiliar with electronic land certificates. Therefore, researchers suggest that the government can work even better in socializing or educating the public about the benefits of issuing electronic land certificates.

Optimizing the issuance of electronic land certificates requires synergy from various parties, from the government, the community, to technology providers. The indicators discussed Land Office Infrastructure Readiness, Data Security, Policy Implementation, and Public Understanding are considered by researchers as important parameters in assessing the successful implementation of this program. The facts in the field found by researchers see that some of the indicators that have been determined in supporting the optimization of the issuance of electronic land certificates are still considered less than optimal. Therefore, researchers assess that the process of issuing electronic land certificates is not optimal.

Therefore, the author suggests to always monitor and improve these indicators consistently, it is expected that the digitization of land processes certificates will not only run effectively and efficiently, but also be able to strengthen public confidence in the national land system. In the future, collaboration and continuous innovation are the keys to facing challenges while taking advantage of opportunities from technological developments in the land sector. Thus, electronic land certificates can become the main pillar in supporting modern, transparent and accountable land governance.

Government Efforts (BPN) Gorontalo City in Optimizing the Issuance of Electronic Land Certificates

In the era of growing digitalization, the Indonesian the government, via the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) has a strategic role in encouraging innovation in the land sector. One of the progressive steps taken is The execution of electronic land administration issuance as part of the transformation of land services. This step not only aims to increase efficiency in the administrative process, but also provides security, transparency, and ease of access for the community.

Digital transformation is an initiative to transition the management system and land services to a digital or electronic. This digital transformation encompasses data processing, land registration, tax object assessment, certification, and digital data storage. Through digital transformation, the Ministry of ATR/BPN can enhance efficiency, transparency, and accuracy in land management and services. This will enhance productivity and service quality, thereby accelerating the development process and improving community welfare. Therefore, the digital transformation of the Ministry of ATR/BPN is crucial and must be continuously enhanced (Adinegoro, 2023). One focus is The transition to digital land certificates, known as electronic land certificates.

The issuance of Electronic Land Certificates (e-Certificates) has important relevance As part of efforts to modernize land administration in Indonesia. Through the adoption of digital technology, e-Certificate brings higher efficiency in the land administration process, accelerating the process of land registration, mapping and measurement. In addition, the implementation of e-Certificate also increases the level of transparency in land administration by allowing easy access to land data for landowners and other relevant parties. Security of land documents is also enhanced through the use of blockchain technology or digital signatures, reducing the risk of forgery and fraud. In addition, e-Certificate also brings benefits in terms of accessibility, by allowing landowners to easily obtain copies of their land certificates electronically (Adiyanti, 2024).

BPN as the institution responsible for land management in Indonesia plays a key role in optimizing the issuance of electronic land certificates. However, in the implementation process, BPN faces various challenges that need to be overcome so that the optimization of the electronic land certificate system can run as expected. These challenges include legal aspects, technology, infrastructure readiness, socialization to the community, and resistance from various parties who are still accustomed to the conventional system.

The issuance of electronic land certificates is a strategic step taken By the Government of Indonesia through the National Land Agency (BPN) to improve the efficiency, accuracy and security of land data. The Gorontalo City Land Office (BPN Gorontalo City) as part of this national program has made various efforts in optimizing the issuance of electronic land certificates. The following are some of the efforts made by the Gorontalo City BPN as a result of observations made by researchers:

1. Socialization and Education to the Community

Socialization and education are important efforts to increase public understanding and awareness of various programs, policies, or changes that occur. Through this process, information can be conveyed clearly, accurately and easily understood by the community. Thus, socialization and education to the community requires careful planning, appropriate strategies, and an inclusive approach. With good communication and collaboration with various parties, the introduced program or policy can be understood, accepted, and supported by the community at large.

The success of socialization depends not only on the dissemination of information, but also on the extent to which the community feels involved and benefits from the program. To enhance the efficiency of electronic land certificate issuance. Socialization and education are often used to support the success of government programs such as the introduction of new policies, digitalization programs, improvement of public services, and so on.

Researchers view that Socialization and Education is important to do to the community. because with good Socialization and education to the community. can aim for the community to get the correct and latest information related to electronic land certificates, the community understands the benefits and procedures of the electronic land certificate program, and can build awareness so that the community is involved and supports the success of the electronic land certificate issuance program.

Based on Findings from interviews conducted by researchers with the Gorontalo City BPN, it was explained that the Gorontalo City BPN had conducted socialization to the public both through the Ministry of Social Media and the Gorontalo City Land Office Social Media.

Additionally, the outreach conducted by the Gorontalo City BPN Land Office is direct socialization to PPAT and the community facilitated by the Village Office.

2. Information Technology Infrastructure Improvement

Improving information technology infrastructure is not only the foundation for optimal electronic certificate issuance, but also a strategic step in accelerating digital transformation in the public sector. Improving information and technology infrastructure is important because with adequate support, it can improve the efficiency of electronic land certificate issuance services.

The readiness of Gorontalo City BPN Infrastructure strongly supports this program. In running the electronic land certificate issuance program, it has been equipped with infrastructure in the form of special printers for printing electronic land certificates as many as (4 pieces) each Epson brand (2 pieces), Brother (2 pieces), provision of 2 supporting computers and electronic certificate platforms used to print certificates independently by the community. In addition, Gorontalo City BPN is supported by technology in the form of Si Tata application, Touch My Land Application and Autodesk Map (for verification of land parcels) in realizing service efficiency to the community.

3. Collaboration with Stakeholders

Cooperation with stakeholders is one of the key elements In achieving the success of various initiatives, including the implementation of the electronic land certificate issuance program. Through well-established synergy, various obstacles can be overcome, potential can be maximized, and common goals can be achieved effectively and efficiently. Conversely, the absence of communication and coordination between stakeholders can result in overlapping policies, conflicts of interest, and even program failure.

BPN Gorontalo City in implementing the electronic land certificate issuance program has collaborated with the Land Deed Official (PPAT) and the Village Office Government in terms of implementing socialization so that information about the electronic land certificate issuance program can be widely spread and known by all levels of society.

4. Increased Human Resources (HR) Capacity

Competent human resources are one of the keys to the success of the electronic land certificate issuance program. Therefore, BPN Gorontalo City has conducted training directly from the central ministry (data and information center / Pusdatin) of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency even though so far the training has been through Zoom (Online).

Quoted Based on interviews conducted by researchers with the Gorontalo City BPN who said that human resources from the Gorontalo City BPN were very ready in the implementation of the issuance of electronic land certificates. Because the central ministry has provided applications and has also provided technical instructions related to all services and all existing applications. If a problem occurs, the ministry has provided a complaint service for land offices that are constrained in the process of issuing electronic land certificates to be processed and resolved.

5. Resolution of Obstacles and Constraints

Electronic land certificates are the key to various problems related to land plots so it is necessary to hasten all certificates to switch to Electronic in order to also support easier and faster land services. Electronic land certificates in the issuance (E-Certificate) of course cannot be separated from a number of obstacles and obstacles that need to be overcome to achieve the goal of increasing efficiency, transparency and accuracy in land administration.

Researchers when conducting interviews with the Gorontalo City BPN in overcoming obstacles or Challenges in the process of issuing electronic land certificates, namely by providing a special form to handle obstacles that occur. Obstacles are sent in the form of web tickets to the ministry which will be assisted by the ministry support team (Pusdatin). For people who do not have access to digital devices, The issuance of electronic certificates is conducted at the land office to transfer media. For electronic land certificates stored in the Central BPN database and can be accessed on the “*Sentuh Tanahku*” application, which is available for download on the Playstore application or through the Apple store application.

Several optimization efforts in the implementation of electronic land certificate issuance by BPN Gorontalo City show the government's commitment in modernizing public services. With the implementation of strategic measures involving technology, society, and other stakeholders, this program is expected to create future a more transparent land system, efficient, and reliable.

4. CONCLUSION

The conclusions of this research are: First, the issuance of electronic land certificates (E-Certificate) in Gorontalo city is considered not optimal. From the 4 indicators of optimization of electronic land certificate issuance, namely: (1) Land Office Infrastructure Readiness, (2) Data Security, (3) Policy Implementation, and (4) Public Understanding. Researchers found that there are 3 indicators that have not been maximized in their implementation, namely land office infrastructure readiness, policy implementation, and public understanding.

Second, the efforts made by BPN Gorontalo City in optimizing the issuance of electronic land certificates are as follows: (1) Socialization and Education to the Public, (2) Improving Information Technology Infrastructure, (3) Cooperation with Stakeholders, (4) Increasing HR Capacity and (5) Resolving Obstacles and Constraints.

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