

Transformation Of Customary Law In Resolution Of Common Land Disputes In The Digital Era

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ABSTRACT

Customary land disputes are among the most complex agrarian issues in Indonesia, as they combine the codified state legal system with the fluid, oral, and community-based customary law. This article aims to analyze how the values, institutions, and dispute resolution mechanisms under customary law have transformed with the introduction of digital technology into national land governance, including electronic land certificates, geospatial information systems, online mediation, and e-court platforms. Using normative legal research methods supported by secondary empirical data, this article finds that digitalization offers opportunities in the form of accelerated evidence, transparency of land ownership data, and expanded access to justice for indigenous communities in remote areas. However, it also presents serious challenges in the form of a digital literacy gap, the risk of losing the value of customary deliberation, and the potential for new conflicts due to non-participatory spatial data conversion. This article concludes that digital transformation should ideally not replace customary mechanisms but rather be positioned as a supporting instrument that strengthens the legitimacy and effectiveness of customary land dispute resolution through a hybrid model between customary institutions and the state's digital system.

Keywords: Customary Law; Customary Land; Agrarian Disputes; Digitalization; Dispute resolution.

INTRODUCTION

Land for indigenous legal communities in Indonesia is not merely an economic object that can be freely traded, but rather a living space that contains religious, social, and cultural dimensions that are integrated with the collective identity of a community. Customary rights, as a form of legal relationship between indigenous legal communities and the land they inhabit, are constitutionally recognized through Article 18B paragraph (2) and Article 28I paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which emphasizes that the state recognizes and respects the unity of indigenous legal communities and their traditional rights as long as they are still alive and in accordance with the development of society and the principles of the Unitary State of the Republic of Indonesia.¹ This constitutional recognition was then translated into various laws and regulations, including Law Number 5 of 1960 concerning Basic Agrarian Principles (UUPA) which places customary law as the basis for the formulation of national land law, as well as Regulation of the Minister of State for Agrarian Affairs/Head of the National Land Agency Number 5 of 1999 concerning Guidelines for the Settlement of Customary

¹ Republik Indonesia, Undang-Undang Dasar Negara Republik Indonesia Tahun 1945, Pasal 18B ayat (2) dan Pasal 28I ayat (3).



Rights Issues of Customary Law Communities which has become the main technical reference in handling customary land disputes to date.²

Although this normative recognition has long been in place, the reality on the ground shows that customary land disputes are actually increasing, particularly in areas experiencing the expansion of land-based investments such as plantations, forestry, and mining. Riau Province, for example, is recorded as one of the highest contributors to agrarian conflicts in Indonesia, with Kampar Regency being one of the main flashpoints between indigenous communities and holders of Industrial Plantation Forest (HTI) and Cultivation Rights (HGU) permits.³ A similar pattern also occurs in Papua, as shown by a series of customary land disputes between local tribal communities and the regional government and developers, the resolution of which is often achieved through non-litigation channels based on customary deliberation before proceeding to litigation if an agreement is not reached.⁴ This complexity is exacerbated by the fact that customary law, as a living legal system, does not have a uniform written form, relies heavily on the oral testimony of customary leaders, and has customary territorial boundaries that are often not precisely mapped according to modern cadastral standards.

On the other hand, since the second decade of the 21st century, Indonesia has experienced accelerated digital transformation across various government sectors, including the land sector. The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) issued Ministerial Regulation No. 1 of 2021 concerning Electronic Certificates, which was later updated by Ministerial Regulation No. 3 of 2023 concerning the Issuance of Electronic Documents in Land Registration.⁵ This policy aims to increase the efficiency, transparency, and security of land administration while minimizing conflicts arising from dual certificates and land mafia practices.⁶ In addition, online land service applications such as Sentuh Tanahku were developed as digital transformation instruments for land registration within the Society 5.0 framework, enabling people to independently monitor the status of their land plots through electronic devices.⁷ In the judicial realm, the implementation of electronic case administration systems and electronic trials (e-litigation) in general courts and religious courts has also opened up new opportunities for resolving land disputes, including disputes involving customary land.⁸

The intersection of these two different legal systems paradigms is the fundamental issue of this article. On the one hand, customary law prioritizes the principles of deliberation, collectivity, and dispute resolution oriented towards social restoration (restorative), while the state's digital system is built on the logic of standardization, individualized ownership, and quantitatively measurable data certainty. This tension raises a fundamental question: does the digitalization of land governance actually accelerate the recognition and protection of customary rights of indigenous communities,

² Republik Indonesia, Peraturan Menteri Negara Agraria/Kepala Badan Pertanahan Nasional Nomor 5 Tahun 1999 tentang Pedoman Penyelesaian Masalah Hak Ulayat Masyarakat Hukum Adat.

³ Jurnal Analisis Hukum, "Upaya Hukum Terhadap Penyelesaian Sengketa Tanah Ulayat di Kabupaten Kampar Guna Menjaga Keamanan Nasional," *Jurnal Analisis Hukum* (2023).

⁴ Hadi, dkk., "Penyelesaian Sengketa Tanah Ulayat Masyarakat Hukum Adat Suku Ngalum dengan Pemerintah Daerah Kabupaten Pegunungan Bintang," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 2(2) (2024).

⁵ Peraturan Menteri Agraria dan Tata Ruang/Kepala Badan Pertanahan Nasional Nomor 3 Tahun 2023 tentang Penerbitan Dokumen Elektronik dalam Pendaftaran Tanah.

⁶ Jurnal Hukum Sasana, "Konversi Sertipikat Fisik ke Sertipikat Elektronik," *Jurnal Hukum Sasana* (2024).

⁷ Noer, R. T., & Nugroho, H., "Transformasi Digital Pendaftaran Tanah: Tantangan dan Efektivitas Implementasi Aplikasi Sentuh Tanahku dalam Era Society 5.0," *Jurnal Ilmiah Nusantara*, 1(6) (2024): 250–261.

⁸ Riyan Ramdani & Dewi Mayaningsih, "Urgensi Persidangan Secara Elektronik (E-Litigasi) dalam Perspektif Hukum Acara Peradilan Agama di Era Digitalisasi," *Jurnal Hukum Acara*, 2(2) (2021): 100–116.

or does it, conversely, have the potential to erode the existence of customary law because digital systems tend to require precise, singular, and individual data, something that philosophically contradicts the communal character of customary rights? This question becomes increasingly relevant in light of recent research findings showing that converting physical certificates to electronic ones does not necessarily eliminate historical data errors and may even potentially transfer these errors to the electronic system, which is even more difficult to correct due to its perceived higher legal certainty.⁹

Based on this context, this article was written with the aim of: first, analyzing the position and characteristics of customary law within the framework of resolving customary land disputes in Indonesia along with the dynamics of the problems; second, examining the forms of digital transformation that have been and are currently taking place in land governance and their implications for the effectiveness of resolving customary land disputes; and third, formulating an ideal integration model between customary mechanisms and digital instruments so that the transformation does not eliminate the substantive values of customary law but still provides the legal certainty needed in a modern land system. The urgency of this study lies in the fact that the current national land digitalization policy is still designed uniformly without adequately considering the characteristics of communal rights of customary law communities that vary across regions, thus potentially giving rise to social resistance and new disputes if not accompanied by a participatory and contextual approach.

This article also aims to fill a gap in the literature, given that most previous studies tend to discuss land certificate digitization and customary land dispute resolution as separate topics. Research on electronic certificates generally focuses on legal certainty and evidence in court.¹⁰ Meanwhile, research on the resolution of customary land disputes focuses more on aspects of customary institutions, mediation, and conventional litigation.¹¹ This article attempts to bridge these two realms by positioning digitalization as a variable that directly influences the process and results of customary land dispute resolution, both at the stages of evidence, negotiation, and execution of decisions.

This issue cannot be separated from the national agrarian reform agenda that has been politically and legally launched by the government for more than a decade, with one of its targets being the resolution of structural agrarian conflicts, including conflicts involving customary land of indigenous communities. Failure to resolve customary land disputes fairly not only impacts economic losses for indigenous communities, but also has the potential to cause social instability and even threaten national security in areas prone to agrarian conflict, as shown by various studies linking the resolution of customary land disputes to the national security dimension in Riau Province.¹² In this context, the presence of digital technology is essentially part of the broader agenda of national land bureaucratic reform, as reflected in various recent policies, including the restructuring of land institutions through presidential regulations on land banking agencies and the strengthening of national land governance based on a single database. Therefore, understanding the interaction between digitalization and customary law is not merely a technical administrative issue, but an integral part of efforts to achieve sustainable agrarian justice.

⁹ Jurnal Hukum Sasana, "Sengketa Pertanahan: Studi Kasus Tumpang Tindih Sertifikat di Pagar Alam, Sumatra," *Jurnal Hukum Sasana* (2024–2025).

¹⁰ Masri, E., & Hirwansyah, "Kebijakan Penerbitan Sertipikat Elektronik pada Sistem Pendaftaran Tanah di Indonesia untuk Mewujudkan Kepastian Hukum," *Krtha Bhayangkara* (2023).

¹¹ Jurnal Analisis Hukum (2023), op. cit.

¹² Jurnal Analisis Hukum, "Upaya Hukum Terhadap Penyelesaian Sengketa Tanah Ulayat di Kabupaten Kampar Guna Menjaga Keamanan Nasional," *Jurnal Analisis Hukum* (2023).

This issue is also relevant from a human rights perspective, given that international instruments such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) emphasize the importance of the principle of free, prior, and informed consent (FPIC) in any policy impacting indigenous peoples' territories, including land data digitization policies. This principle requires that the process of mapping, recording, and converting spatial data on customary territories into the state's digital system not be carried out unilaterally, but rather through participatory mechanisms involving indigenous peoples as the primary rights holders to information regarding their own territories. The absence of such participatory mechanisms has the potential to give rise to a new form of structural marginalization, namely digital marginalization, where indigenous peoples, who have historically been vulnerable to land loss, are now also at risk of losing control over the digital representation of their own territories.

METHODS

This research uses a normative legal research method (doctrinal legal research) combined with a socio-legal approach to enrich the analysis of the legal phenomena studied. The normative approach is used to examine primary legal materials in the form of relevant laws and regulations, including the 1945 Constitution of the Republic of Indonesia, Law Number 5 of 1960 concerning Basic Agrarian Regulations, Law Number 11 of 2008 as amended by Law Number 19 of 2016 concerning Electronic Information and Transactions, Regulation of the Minister of State for Agrarian Affairs/Head of the National Land Agency Number 5 of 1999, and Regulation of the Minister of ATR/BPN Number 1 of 2021 and Number 3 of 2023. The approach used in this research includes three types of approaches, namely the statute approach to examine the consistency of regulations regarding customary rights and land digitalization; the conceptual approach to explore the concept of customary law, customary rights, and alternative dispute resolution; and the case approach which is used selectively to examine several decisions and practices of customary land dispute resolution that have been published in academic literature, such as the dispute between the Pantai Raja indigenous community and PT Perkebunan Nusantara V in Kampar Regency.¹³ and customary land disputes among customary law communities in the Papua region.¹⁴

Secondary legal materials were obtained through library research of scientific journals, textbooks on agrarian law and customary law, previous research results, and official policy documents from the Ministry of ATR/BPN and the Supreme Court regarding the digitalization of land and judicial services. Tertiary legal materials were also used as a complement, including legal dictionaries, customary law encyclopedias, and official government publications that provide a more contextual explanation of the background of the national land digitalization policy. All legal materials were collected through searches of national scientific journal databases, university research repositories, and the official websites of relevant ministries and institutions, with selection criteria including the relevance of the theme, the recency of publications, especially within the last five years, and the credibility of the sources as demonstrated by the journal's indexing in recognized scientific databases.

¹³ Jurnal Ilmiah Pendidikan Kewarganegaraan, "Efektifitas Upaya Hukum Sengketa Tanah Ulayat Pantai Raja dengan PTPN V," putusan Pengadilan Negeri Bangkinang Nomor 90/Pdt.G/2020/PN Bkn.

¹⁴ Palenewen, J. Y., "Penyelesaian Sengketa Tanah Ulayat antara Masyarakat Kampung Kaptiau dan Kampung Mawesday di Kabupaten Saruni," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 1(3) (2023).

The collected data was then analyzed qualitatively using content analysis and systematic interpretation techniques, connecting customary law norms, positive law norms, and land digitalization practices to obtain a comprehensive picture of the transformation patterns that occurred. The analysis process was carried out in three stages. The first stage is data reduction, which is sorting legal materials and literature that are directly relevant to the two core research issues: the characteristics of customary law in resolving customary land disputes and forms of digital transformation in land governance. The second stage is thematic categorization, which is grouping findings into major themes such as dispute patterns, customary institutions, digitalization opportunities, and digitalization challenges, which then become the presentation framework in the results and discussion sections. The third stage is synthesis and interpretation, which is connecting findings within each theme to formulate a prescriptive integration model.

The analysis is conducted deductively, starting from the general principles of customary land rights recognition in the constitution and laws, then applied to concrete issues such as the effectiveness of customary land dispute resolution in the digital era, to then draw prescriptive conclusions in the form of a recommended integration model. To maintain the validity of the analysis, this study also applies source triangulation, namely comparing findings from various case studies in different regions, such as Riau, Papua, and West Sumatra, to ensure that the identified patterns are sufficiently consistent and not merely local characteristics unique to a particular region. The limitation of this study lies in its secondary data-based nature, which does not involve direct field observations or in-depth interviews with traditional leaders or land officials; therefore, the findings in this article are analytical-conceptual in nature and open to further testing through empirical research on specific case studies, including through a legal ethnography approach that allows for more in-depth data collection on indigenous peoples' perceptions of the ongoing digitalization process.

RESULTS AND DISCUSSION

Position and Characteristics of Customary Law in the Settlement of Customary Land Disputes

Customary rights are the authority which according to customary law is held by certain customary law communities over certain areas, which are the living environment of their citizens to take advantage of natural resources, including land, in the area for their survival and livelihood, which arises from the physical and spiritual relationship passed down from generation to generation and is unbroken between the customary law community and the area concerned.¹⁵ This definition emphasizes that customary rights are not individual ownership rights as known in the Western civil law system, but rather communal-territorial rights in which individual members of the customary law community only have the right to use (the right to enjoy) certain parts of the customary land, while the authority to regulate, allocate and release the land remains with the customary law community collectively through recognized customary leaders.¹⁶ This two-layered character, namely the right to regulate (*beschikkingsrecht*) which is inherent in the community and the right to enjoy which is inherent in individual citizens, is one of the sources of complexity when customary rights must be reconciled with the

¹⁵ Republik Indonesia, Peraturan Menteri Negara Agraria/Kepala BPN Nomor 5 Tahun 1999, Pasal 1 angka 3.

¹⁶ Jurnal Ilmu Hukum, "Pola Penyelesaian Sengketa Tanah Ulayat di Sumatra Barat," *Jurnal Ilmu Hukum*, 4(1).

national land registration system which is based on a single legal subject and a precisely defined area of land.¹⁷

The recognition of customary rights in the UUPA is conditional, meaning that as long as they actually exist, their implementation must be such that they align with national and state interests and must not conflict with other higher laws and regulations. This provision was then interpreted in more detail through the Minister of Agrarian Affairs/Head of the National Land Agency Regulation Number 5 of 1999, which stipulates three cumulative criteria for determining the existence of customary rights: the existence of a customary law community that meets certain requirements, the existence of certain land that serves as the living environment of the members of the customary law community concerned, and the existence of customary law regulations regarding the management, control, and use of customary land that are applicable and adhered to by the members of the customary law community. The absence of one of these elements, for example because customary institutions have weakened due to population migration or socio-economic changes, can be the basis for other parties, including the government and business entities, to claim that the land has become state land and is therefore open to control through formal licensing mechanisms.

Empirically, customary land disputes in Indonesia show a relatively consistent pattern at several points of friction. First, disputes between indigenous communities and business entities holding land-based business permits, as illustrated in the case of overlapping claims between indigenous communities and companies holding HTI and HGU permits in Kampar Regency, which were resolved through a combination of negotiation, mediation, and legal action in the courts.¹⁸ Second, disputes between members of the customary law community themselves are related to customary land boundaries between villages or between clans, as occurred in the customary land boundary dispute in Nendali Village and the dispute between the Kaptiau Village community and Mawesday Village in Sarimi Regency, Papua.¹⁹ Third, disputes between customary law communities and local governments regarding the use of customary land for public facilities, such as the dispute regarding the construction of the Lukas Enembe Stadium in Jayapura Regency.²⁰

In general, the resolution of this type of dispute is first undertaken through non-litigation channels based on customary deliberation, which involve customary figures, tribal chiefs, or local customary institutions as mediators who have high social legitimacy in the eyes of the disputing parties.²¹ This process is generally informal, not always documented in writing, relies on certain customary symbols as a sign of agreement, and is oriented towards restoring long-term social relations between residents, not solely on determining the winner and loser. If customary deliberation does not produce an agreement, the parties generally resort to mediation facilitated by the local land agency

¹⁷ Zulfikar, R., Durahman, D., Putra, P. A. A., & Kurniawan, C. S. (2026). Digital Land Registration Transformation: Does Indonesia's Ptsl Program Guarantee Legal Certainty, Equity, And Justice?. *Petita: Jurnal Kajian Ilmu Hukum Dan Syariah*, 11(1), 327-348. <https://doi.org/10.22373/petita.v11i1.951>

¹⁸ Jurnal Analisis Hukum (2023), op. cit.

¹⁹ Tanati, D., & Palenewen, J. Y., "Penerapan IPTEKS tentang Penyelesaian Sengketa Batas Tanah Ulayat Melalui Jalur Litigasi dan Non Litigasi pada Masyarakat Hukum Adat di Kampung Nendali," *AMMA: Jurnal Pengabdian Masyarakat*, 1(09) (2022): 1133–1138.

²⁰ Palenewen, J. Y., & Reumi, T. A. S., "Settlement of Customary Law Community Land Disputes Regarding the Construction of the Lukas Enembe Stadium in Kampung Harapan Jayapura Regency," *Journal of Law, Politic and Humanities*, 4(5) (2024): 1295–1304.

²¹ Tanati, D., Rongalaha, J., & Palenewen, J. Y., "Penerapan IPTEKS tentang Penyelesaian Sengketa Tanah Ulayat pada Masyarakat Hukum Adat Melalui Jalur Non Litigasi di Kampung Asei Besar," *Jompa Abdi: Jurnal Pengabdian Masyarakat*, 1(4) (2022): 42–51.

as regulated in the Minister of Agrarian Affairs/Head of the National Land Agency Regulation Number 5 of 1999, and if the mediation still fails, the dispute is then brought to litigation in the district court or state administrative court, depending on the object and parties in dispute.

A fundamental weakness of this settlement model, as identified in various case studies, is the weak evidentiary power of customary agreements when disputes progress to litigation. Agreements reached through customary deliberation are often based solely on the oral testimony of customary leaders and lack written documentation that meets formal evidentiary standards. Therefore, when one party later reneges on the agreement, the other party faces significant difficulties in proving it in court.²² In addition, the absence of precise mapping of customary land boundaries causes the process of proving ownership to depend on historical testimonies and documents that are vulnerable to manipulation and differences in interpretation between generations.

Customary legal institutions, the primary supporter of customary land dispute resolution mechanisms, also face internal challenges in the form of weakened legitimacy due to changes in social structures, population migration, and the influx of individual economic interests into customary areas. In some communities, the younger generation tends to view customary land as an economic asset that can be converted into individual property rights, then sold or used as collateral—an orientation that contradicts the collective philosophy of customary rights themselves. This situation creates internal pressure on the authority of customary leaders to enforce traditional agreements, so that disputes that could previously be resolved effectively through deliberation now increasingly resort to litigation, which is more time-consuming and expensive.²³

Another equally important issue is the lack of harmonization between customary law decisions and the state land administration system. When customary law institutions decide on the allocation or distribution of customary land to their citizens, these decisions are not automatically recorded in the national land registration system, creating a gap between the reality of land ownership according to customary law and the official data held by the National Land Agency. This gap, in turn, is one of the main causes of new disputes, particularly when third parties obtain certificates for land that has traditionally been controlled by members of certain customary law communities, a phenomenon that consistently appears in various case studies of overlapping certificate disputes in various regions.²⁴

One important characteristic that needs to be emphasized is that customary law in Indonesia is not a single entity, but rather varies greatly according to the region, ethnicity, and social structure of each customary law community. In West Sumatra, for example, the concept of customary rights is known as *ulayat nagari*, the management of which requires collective agreement regarding who or what institution is authorized to act on behalf of the *nagari* when dealing with outside parties, considering that the authority to manage customary land cannot be delegated to a particular individual, including the government, because this authority is inherent in all members of the *nagari* community collectively.²⁵ This kind of institutional structure is different from the pattern that applies to customary law communities in Papua, where the management of customary land is more based on a clan structure with the tribal chief as the central decision-making figure, as reflected in

²² Jurnal Ilmu Hukum (op. cit.), bagian Hasil Penelitian dan Pembahasan.

²³ Amponsah, A. A. (2025). Quantum Computing and Customary Law: Modeling Conflict Resolution Mechanisms from African Traditional Justice Systems. *International Journal of Humanities, Management, Engineering, Education and Legal Studies*, 120-152. <https://ijhmeels.com/index.php/journal/article/view/9>

²⁴ Jurnal Hukum Sasana (2024–2025), op. cit.

²⁵ Jurnal Ilmu Hukum, “Pola Penyelesaian Sengketa Tanah Ulayat di Sumatra Barat,” *Jurnal Ilmu Hukum*, 4(1).

various cases of customary land dispute resolution in Jayapura Regency, Sarimi Regency, and Pegunungan Bintang Regency.²⁶

This diversity of customary institutional structures has important implications for the design of land digitization policies, as a uniform national approach may be incompatible with the characteristics of customary institutions in specific regions. For example, a digital system designed with the assumption of a single decision-making figure on behalf of the customary community, as is common in clan-based customary communities, could present difficulties in implementation in customary communities with collective decision-making structures, such as the ulayat nagari (village-based customary law) in West Sumatra, which require collective deliberation before decisions are considered legally valid.²⁷ Therefore, land digitization policies affecting customary areas should ideally be designed flexibly and adaptable to local customary institutional structures, rather than being forced to follow a standard format that applies uniformly throughout Indonesia.

In practice, the resolution of customary land disputes in Indonesia does not proceed along a single path, but rather moves in stages between customary-based non-litigation mechanisms, mediation facilitated by land agencies, and litigation in court, with the additional possibility of arbitration if the parties have agreed to an arbitration clause as regulated in Law Number 30 of 1999 concerning Arbitration and Alternative Dispute Resolution. Arbitration is defined as a method of resolving civil disputes outside the general courts based on an arbitration agreement made in writing by the disputing parties, either in the form of a clause included before the dispute arises or a separate agreement made after the dispute occurs.²⁸ Although normatively the arbitration route is open for customary land disputes of a civil nature, its use in practice is relatively limited because the complexity of the collective legal subject in customary rights makes it difficult to draft arbitration agreements that legally bind all members of the customary law community.

The hierarchical movement between these channels essentially reflects the logic that customary law provides the first and primary avenue (first resort) for dispute resolution, while formal state channels serve as a last resort if customary mechanisms fail to reach a binding agreement. This hierarchical logic is actually in line with the principle of subsidiarity in customary dispute resolution, which prioritizes resolution at the community level before involving higher authorities. However, in practice, this hierarchy often does not run smoothly due to the absence of a formal mechanism governing how the results of customary deliberations should be treated when disputes progress to land mediation or litigation. Consequently, judges or mediators at the subsequent stages often have to start the evidentiary process from scratch without being able to optimally utilize the results of the customary deliberations that have been achieved previously.

Another relevant issue to discuss is the extent to which courts recognize the decisions of customary institutions in resolving customary land disputes. Several studies have shown that courts are generally open to considering customary evidence, including testimony from traditional leaders and traditional documents. However, such considerations must still go through the formal evidentiary process applicable in civil

²⁶ Hadi, dkk., "Penyelesaian Sengketa Tanah Ulayat Masyarakat Hukum Adat Suku Ngalum dengan Pemerintah Daerah Kabupaten Pegunungan Bintang," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 2(2) (2024).

²⁷ Sukriono, D., Sudirman, S., Rapita, D. D., Al Atok, A. R., & Bramantya, A. (2025). Local wisdom as legal dispute settlement: how Indonesia's communities acknowledge Alternative Dispute Resolution?. *Legality: Jurnal Ilmiah Hukum*, 33(1), 261-285. <https://doi.org/10.22219/ljih.v33i1.39958>

²⁸ Republik Indonesia, Undang-Undang Nomor 30 Tahun 1999 tentang Arbitrase dan Alternatif Penyelesaian Sengketa, Pasal 1 angka 1; Jurnal Ilmu Hukum (op. cit.), bagian mengenai arbitrase.

procedure law. Therefore, the strength of customary evidence depends heavily on the parties' ability to present supporting evidence that meets the court's evidentiary standards.²⁹ This condition shows that even though customary law is substantively recognized, procedurally customary law still has to be "translated" into the language and format of formal procedural law, a process that does not always run smoothly considering the fundamental differences between the logic of oral-communal proof in customary law and the logic of written-individual proof in modern civil procedural law.

From this description, it can be understood that the characteristics of customary law in resolving customary land disputes have strengths in the form of high social legitimacy and a restorative resolution orientation, but at the same time have structural weaknesses in the form of weak documentation, dependence on customary figures whose authority can weaken over time, and a lack of interoperability with the state land administration system. These weaknesses can theoretically be strengthened through digital instruments, as long as the instruments are designed contextually and do not displace the substantive value of customary law itself.

Digital Transformation in Customary Land Dispute Resolution: Opportunities, Challenges, and Integration Models

The digital transformation of Indonesia's national land governance can be identified at least four levels. The first is the digitization of land documents through the issuance of electronic land certificates, as stipulated in Ministerial Regulation No. 1 of 2021 on ATR/BPN, which was later strengthened by Ministerial Regulation No. 3 of 2023 on the issuance of electronic documents for land registration.³⁰ This policy converts land books and physical measurement certificates into a centralized digital database, which theoretically eliminates the classic problems of data inconsistency and document duplication that have long been one of the causes of land disputes, while also making the digital system a single source of truth for the public and law enforcement officials in assessing the status of a land plot.³¹

The second layer is the digitalization of land information services through smartphone-based applications such as Sentuh Tanahku, which allows people to monitor the status of their land plots, including the presence or absence of overlapping claims, without having to physically visit the land office.³² The third layer is the digitalization of the judicial process through an electronic case administration system and electronic trials (e-litigation), which allows the filing of lawsuits, the exchange of evidence documents, and the reading of verdicts to be done electronically, a development that is relevant for the resolution of customary land disputes considering that many customary areas are located far from judicial centers.³³ The fourth layer, which is still an early initiative, is the exploration of Geographic Information System (GIS) technology and distributed databases (blockchain) as potential solutions to address the problem of land mafia and overlapping disputes through more accurate and difficult-to-manipulate spatial data recording.³⁴

²⁹ Jurnal Analisis Hukum (2023), op. cit., mengenai efektivitas upaya hukum dalam sengketa tanah ulayat.

³⁰ Peraturan Menteri ATR/BPN Nomor 1 Tahun 2021 tentang Sertipikat Elektronik; Peraturan Menteri ATR/BPN Nomor 3 Tahun 2023.

³¹ Wathan: Jurnal Ilmu Sosial dan Humaniora, "Transformasi Digital Pendaftaran Tanah sebagai Langkah Strategis Mewujudkan Kepastian Hukum Hak Atas Tanah" (2026).

³² Noer, R. T., & Nugroho, H. (2024), op. cit.

³³ Riyan Ramdani & Dewi Mayaningsih (2021), op. cit.

³⁴ Fadhillah, R. D., "Blockchain dan Geographic Information System (GIS): Solusi Digital untuk Masalah Mafia Tanah di Indonesia," CSIRT Unair (2025).

These four layers of transformation are basically designed to strengthen the legal certainty of land data in general, but their implications for customary land require special attention considering the communal nature of customary rights and their not always being mapped precisely according to national cadastral standards. A comparison with customary land management practices in several other jurisdictions shows that the issues facing Indonesia are not unique. Several countries with significant indigenous populations have already developed flexible and locally tailored approaches to land registration, known as fit-for-purpose land administration. This approach does not require the same high cadastral accuracy as conventional standards initially, but rather prioritizes rapid and inclusive rights recording, which can then be gradually refined.³⁵ This kind of approach is relevant to be adapted in the Indonesian context, especially for areas with large concentrations of customary land that have not been cadastrally mapped, because an approach that is too rigid and demands high precision from the start actually risks slowing down the process of recognizing customary rights itself, while the pressure to convert land for investment purposes continues without waiting for the completion of the precise mapping process.

Another lesson learned from international practice is the importance of building a multi-layered database, one that not only records land boundaries cadastrally but also layers of information regarding communal rights, customary tenure history, and the status of ongoing disputes. This multi-layered approach allows digital systems to accommodate the complexity of layered customary rights, rather than forcing data simplification into the single ownership format that has been the standard for modern cadastral systems. Adapting this approach to the Indonesian context requires adjustments to technical regulations within the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), including the possible development of a special registration scheme for customary land that differs from the individual land registration scheme, as reflected in the spirit of the Minister of Agrarian Affairs and Spatial Planning/Head of BPN Regulation No. 5 of 1999, but has not yet been accompanied by the development of a digital infrastructure equivalent to the infrastructure for individual land registration.³⁶

The digitization of land governance opens up several significant opportunities for strengthening customary land dispute resolution. First, digital systems enable more permanent and verifiable documentation of customary agreements. If the results of customary deliberations regarding customary land boundaries or community land allocation are documented digitally and integrated with the land registration system, the weakness of oral evidence, a key weakness of customary mechanisms, can be minimized. Automatically recorded and difficult-to-manipulate digital footprints provide stronger legal protection for land ownership claims, potentially reducing the escalation of conflicts that arise from unclear ownership status.³⁷

Second, digitizing land services expands access to justice for indigenous communities geographically located in remote areas far from land offices or courts. Through online service applications and electronic justice systems, indigenous communities can monitor the status of their land parcels, file objections, or even participate in mediation and court proceedings without incurring significant travel costs,

³⁵ Wathan: Jurnal Ilmu Sosial dan Humaniora (2026), op. cit., mengenai fit-for-purpose land administration.

³⁶ Mohadi, W. A. N., Saleng, A., & Paserangi, H. (2026). DIGITALIZATION OF LAND ADMINISTRATION AND LEGAL CERTAINTY FOR LAND RIGHTS IN INDONESIA. *Veredas do Direito*, 23(9), e237009-e237009. <https://doi.org/10.18623/rvd.v23.7009>

³⁷ Journal of Law and Social Change Review, "Transformasi Digital Sertifikat Tanah dan Respons Kepastian Hukum" (2024).

a factor that has empirically been a major obstacle for indigenous communities in pursuing their rights through formal channels.³⁸ Third, the digitization of spatial data has the potential to accelerate the identification of overlapping claims between customary land and land-based business permits from an early stage, so that conflicts can be prevented or mediated before they escalate, rather than being detected only after business permits have been issued and land exploitation activities have already begun.

Fourth, from an institutional perspective, digitalization encourages customary institutions to improve their internal governance, including systematically recording customary land boundaries, communal ownership genealogies, and land allocation histories. This process, while challenging to adapt to, can ultimately strengthen the legitimacy of customary institutions before the state and third parties, as the data becomes more structured, verifiable, and can serve as stronger evidence in both litigation and non-litigation processes.

Behind these opportunities, there are a number of serious challenges that need to be anticipated. First, the digital literacy gap and limited technological infrastructure in regions with high concentrations of indigenous peoples, such as Papua, inland Kalimantan, and parts of Sumatra, are major structural barriers to optimal use of digital systems.³⁹ As land registration systems and judicial processes shift to electronic platforms, people without adequate internet access or the ability to operate digital devices risk being excluded from the legal processes that are supposed to protect their rights, a paradox that contradicts the original purpose of digitalization to expand access to justice.

Second, there is a risk that the process of converting spatial data into a digital system is carried out unilaterally by land agencies without involving the active participation of indigenous communities, so that historical data errors, including boundary errors and overlapping claims, are transferred into the electronic system which is then considered to have higher legal certainty and is more difficult to correct than physical documents.⁴⁰ Several studies have shown that mediation facilitated by land offices regarding overlapping certificate disputes often fails because administrative data, both physical archives and digital data, are not fully synchronized and not thoroughly verified before the digitization process is carried out.⁴¹ If this pattern occurs on customary land, the potential for error can actually multiply disputes instead of resolving them, considering that customary land boundaries are essentially communal, fluid, and often naturally overlap between adjacent customary communities, something that is difficult to reduce to the single land plot format required by the digital cadastral system.

Third, there is a philosophical risk in the form of a shift in the orientation of dispute resolution from being restorative and deliberation-based to being more legalistic and individualistic due to the dominance of digital system logic that requires certainty of quantitatively measurable data.⁴² When the entire dispute resolution process is directed to produce output in the form of definite and single digital data, there is a tendency to ignore the customary deliberation process which is the main strength of customary mechanisms in restoring social relations between residents. Fourth, the aspect of the legal validity of electronic documents as evidence in court also still leaves doubts among

³⁸ Jurnal Analisis Hukum (2023), op. cit., bagian efektivitas resolusi konflik.

³⁹ Ejournal Kampus Akademik, "Implementasi Pendaftaran Tanah Melalui Elektronik: Tantangan Infrastruktur dan Literasi Digital" (2021).

⁴⁰ Jurnal Hukum Sasana (2024–2025), op. cit.

⁴¹ Ibid.

⁴² Leliak, A. S. (2025). Strengthening Legal Protection of Indigenous Peoples' Customary Land Rights In Indonesia's Disruption Era. *Litigasi*, 26(2), 443-472.
<https://journal.unpas.ac.id/index.php/litigasi/article/view/20032>

some practitioners and the public, even though electronic certificates have been normatively recognized as evidence based on the expansion of the meaning of evidence in the Electronic Information and Transactions Law.⁴³ This doubt can slow down the social acceptance of digital instruments, especially among indigenous communities who have historically placed more trust in the testimony of traditional figures than in electronic documents that are considered abstract and cannot be directly verified by their senses.

Based on the mapping of opportunities and challenges above, this article argues that the most relevant policy direction is not to completely replace customary mechanisms with digital systems, but rather to develop a hybrid integration model that positions digital technology as a supporting tool for customary institutions, rather than a substitute for them. This integration model contains at least four key elements.

The first element is the active participation of indigenous communities in the mapping and digitization of customary land boundaries, so that the resulting spatial data reflects the local knowledge held by the community, not merely the results of technocratic measurements by land agencies. This participatory approach aligns with the principle of fit-for-purpose land administration, which is beginning to be developed in contemporary land practice: a flexible land registration approach tailored to the needs and social characteristics of local communities, rather than a rigid and uniform approach for all regions.⁴⁴

The second element is the digitalization of customary agreement documentation, namely the results of customary deliberations regarding the allocation, boundaries, and resolution of customary land disputes need to be digitally documented by involving customary leaders as official witnesses, so that the agreement has stronger evidentiary power without eliminating the deliberation process itself as the core of customary mechanisms. The third element is the strengthening of hybrid mediation, namely the mediation process that is still led by customary leaders as the main mediator with social legitimacy, but is facilitated by digital instruments in the form of spatial data, digital ownership history, and electronic documentation to strengthen the objectivity of the mediation process, before the results of the agreement are officially registered into the state digital land system. The fourth element is the strengthening of digital literacy of indigenous legal communities through a continuous mentoring program, not just technical training on the use of applications, but also an understanding of the legal implications of digital data on their communal rights, so that indigenous legal communities are not passive objects of the digitalization process, but rather subjects who actively participate in controlling how data regarding their living areas is recorded and used by the state.

This hybrid integration model is basically in line with the spirit of constitutional recognition of customary rights as regulated in Article 18B paragraph (2) of the 1945 Constitution, which places this recognition not as a static recognition, but rather a recognition that must be adjusted to the development of the times without eliminating the essence of these rights. Digitalization, therefore, should be understood not as a threat to the existence of customary law, but as an opportunity to strengthen the resilience of customary law amidst increasingly complex economic and social pressures, as long as the transformation process is carried out in a participatory, contextual manner, and does not place the logic of digital data certainty above the logic of social justice which is the core of customary law itself.

⁴³ Journal of Law and Social Change Review (2024), op. cit., mengenai perluasan makna alat bukti dalam UU ITE.

⁴⁴ Wathan: Jurnal Ilmu Sosial dan Humaniora (2026), op. cit., mengenai fit-for-purpose land administration.

The relevance of the hybrid integration model can be illustrated through several cases discussed in the previous section. In the customary land dispute between the Pantai Raja indigenous community and PT Perkebunan Nusantara V in Kampar Regency, the prolonged escalation of the conflict was largely due to the lack of mutually agreed-upon customary land boundary data from the initial granting of the HGU permit, resulting in a lengthy evidentiary process at the Bangkinang District Court before a verdict was finally reached, which still requires further legal action.⁴⁵ If, from the initial stage of granting business permits, spatial data on the customary territories of local indigenous communities had been mapped in a participatory manner and digitized as part of the licensing consideration database, overlapping claims of this kind could potentially be detected and mediated early on, before investments and business activities actually took place in the field.

Likewise, in cases of customary land boundary disputes between villages in Papua, such as those that occurred in Nendali Village and between Kaptiau Village and Mawesday Village, the root of the problem generally lies not in the absence of customary agreement regarding territorial boundaries, but rather in the absence of documentation that can be consistently referred to by subsequent generations or by land officials when disputes reappear in the future.⁴⁶ Digitizing documentation of customary agreements, as proposed in the hybrid integration model, has the potential to reduce the risk of similar disputes re-emerging in the future because the agreements reached are permanently stored and can be accessed by future generations without relying entirely on the memories or oral testimony of aging customary leaders.

Based on the above analysis, several policy recommendations can be formulated for stakeholders. The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) needs to develop specific technical guidelines for the digitization of customary land spatial data that explicitly require the participation of customary law communities and local customary institutions, rather than simply relying on technocratic measurements by land officials. Ideally, these guidelines should also include a more responsive data correction mechanism, given that spatial data errors in customary areas differ from those in individual land ownership, necessitating correction procedures involving customary deliberations rather than simply standard administrative procedures.

For judicial institutions, it is necessary to strengthen the capacity of judges to understand the characteristics of customary law and the inherent limitations of evidence, so that the adjudication process for customary land disputes does not merely demand the same evidentiary standards as for individual land rights disputes, but rather proportionally considers the communal and oral nature of some customary evidence, while continuing to encourage the use of digital instruments as a complement to evidence. For local governments and customary institutions, it is necessary to strengthen the capacity of customary institutions through sustainable legal assistance and digital literacy programs, including the provision of basic technological infrastructure in areas with high concentrations of customary law communities, so that the digital divide does not become a new obstacle in fulfilling the rights of customary communities to their customary land. For customary law communities themselves, it is important to encourage the regeneration of customary leadership that not only understands traditional values,

⁴⁵ Jurnal Ilmiah Pendidikan Kewarganegaraan, “Efektifitas Upaya Hukum Sengketa Tanah Ulayat Pantai Raja dengan PTPN V,” putusan Pengadilan Negeri Bangkinang Nomor 90/Pdt.G/2020/PN Bkn.

⁴⁶ Tanati, D., & Palenewen, J. Y., “Penerapan IPTEKS tentang Penyelesaian Sengketa Batas Tanah Ulayat Melalui Jalur Litigasi dan Non Litigasi pada Masyarakat Hukum Adat di Kampung Nendali,” *AMMA: Jurnal Pengabdian Masyarakat*, 1(09) (2022): 1133–1138.

but also has the capacity to interact with the state's digital system, so that this transformation process can be actively controlled by the customary communities themselves, rather than simply becoming objects of policies designed by external parties.

CONCLUSIONS

Customary law has a strong constitutional position within the framework of resolving customary land disputes in Indonesia, with the main characteristic being a restorative deliberation mechanism oriented towards restoring social relations. However, this mechanism has structural weaknesses in the form of weak written documentation, reliance on the legitimacy of customary leaders that can weaken with social change, and a lack of interoperability with the state land administration system. The digital transformation that is taking place in national land governance, including electronic land certificates, online land service applications, electronic justice systems, and the exploration of spatial data technology, opens up significant opportunities in the form of strengthening the proof of customary agreements, expanding access to justice for communities in remote areas, and accelerating the early detection of overlapping land claims. However, digitalization also presents real challenges in the form of a digital literacy gap, the risk of non-participatory spatial data conversion that transfers historical errors into the system that are more difficult to correct, and the philosophical risk of shifting the orientation of dispute resolution from restorative to legalistic and individualistic.

For land administration authorities and indigenous communities, the proposed hybrid integration model provides a practical framework for balancing legal certainty and the protection of customary values in the digital era. The active involvement of indigenous communities in the digitization of customary land data, combined with the digital documentation of customary agreements, may strengthen both evidentiary value and participatory land governance. Furthermore, continuous digital literacy programs and institutional collaboration between customary institutions and land authorities are essential to ensure that digital transformation enhances, rather than diminishes, the effectiveness of customary land dispute resolution mechanisms.

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