

The Legality of Land Ownership Right that Changes in Position and Size (Case Study of Natural Liquefaction Disaster in Palu City)

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Abstract

This study endeavors to accomplish two primary objectives: firstly, to evaluate the legal status of land ownership rights impacted by the liquefaction natural disaster in Palu, particularly focusing on instances where there are alterations in position and dimensions. Secondly, it aims to scrutinize the actions undertaken by land rights holders to secure legal ownership of land affected by such changes, particularly through engagements with the Palu City National Land Agency. Employing a juridical-empirical approach, the research illuminates two pivotal findings: firstly, that natural disasters, including liquefaction, can induce substantial shifts in land position, potentially complicating the legality of ownership and precipitating disputes among neighboring landowners. Secondly, it reveals that land rights holders commonly interface with the National Land Agency to rectify alterations in land position and size, underscoring the imperative of prompt reporting to ensure accurate measurement and documentation. The study posits two recommendations:

firstly, advocating for timely reporting to the National Land Agency by affected communities to facilitate precise measurement and documentation of land shifts. Secondly, advocating for governmental enactment of specialized regulations addressing land transfers, thereby augmenting legal certainty for affected communities.

KEYWORDS *Legality, Land Rights, Liquefaction*

Introduction

Land ownership rights are essential pillars of societal structure, influencing individual and community stability, economic development, and resource management.¹ In regions susceptible to natural disasters, such as Palu City, Indonesia, the legal frameworks governing these rights face unique challenges. The phenomenon of natural liquefaction—where saturated soil loses strength during seismic activity—can significantly alter land position and size, resulting in complex legal dilemmas regarding property ownership.² This case study aims to investigate these dilemmas, providing insights into how disasters impact land rights and the necessity for adaptive legal approaches.

Natural liquefaction events can lead to sudden and unpredictable changes in land characteristics, complicating the determination of ownership and property value. In Palu, a city that has experienced devastating earthquakes, many residents have faced loss of land or shifts in boundaries, leading to disputes over rightful ownership. These scenarios highlight the inadequacies of existing legal frameworks, which often fail to account for the dynamic nature of land in disaster-prone areas. As traditional notions of land tenure clash with the realities

¹ Justice Mensah, "Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review." *Cogent Social Sciences* 5, no. 1 (2019): 1653531; Robert T. Lackey, "Seven pillars of ecosystem management." *Landscape and Urban Planning* 40, no. 1-3 (1998): 21-30.

² Surjono Surjono, et al. "Residential Preferences of Post Great Disaster in Palu City, Indonesia." *Evergreen* 8, no. 4 (2021): 706-716; Dewi Kemala Sari, Moh Fayed Alkatiri, and Helvy Mutiara Rizky. "Status of Mortgage Rights Over Land Post-Liquefaction in Palu City." *Tadulako Law Review* 6, no. 2 (2021): 181-192.

of environmental change, it becomes crucial to examine how legal systems can evolve to protect landowners and ensure equitable resolution of disputes.³

For this context, land recognized as a vital natural resource, integral to human life and a key source of well-being, prosperity, and sustenance. This underscores the responsibility of the state to promote the welfare and prosperity of its citizens, as articulated in Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which states, “*Earth, water, and natural resources contained therein are controlled by the state and utilized for the greatest prosperity of the people.*”⁴

These constitutional provisions are further operationalized through Law Number 5 of 1960 concerning Basic Agrarian Regulations. This legislation empowers the state to exercise comprehensive authority over land issues in Indonesia, enabling the establishment of rights associated with land ownership. Given the crucial role that land plays in human life, the rights to land ownership are considered absolute.⁵ This legal framework thereby minimizes the potential for contestation of land ownership rights by parties lacking a legitimate interest in the land.

The right to own land is a hereditary right, recognized as one of the strongest and most comprehensive forms of ownership available to the public. This right not only serves a significant social function but also endures throughout the lifetime of the owner, passing to heirs upon their death. To ensure legal certainty in land tenure and ownership, it is essential to establish clear delineations of location, boundaries, and area for each land parcel. Legal certainty in land ownership fundamentally begins with the assurance of precise

³ Armansyah Armansyah. "Legal Assurance on the Status of Proprietary Rights to Land Destroyed Post Earthquake and Liquefaction Based on Regulation of The Minister of Agriculture Number 17 Year 2021." *The Easta Journal Law and Human Rights* 1, no. 1 (2022): 9-15; Winda Puspita Sari Ismail, and R. Rahaditya. "Comparison of Regulations and The Role of Officials Making Land Deeds in The Reconstruction of Land Registration After Natural Disasters." *Devotion: Journal of Research and Community Service* 4, no. 1 (2023): 256-278; Try Widiyono, and Md Zubair Kasem Khan. "Legal Certainty in Land Rights Acquisition in Indonesia's National Land Law." *Law Reform* 19, no. 1 (2023): 128-147.

⁴ See also Suparto Suparto. "Interpreting The State's Right to Control in the Provisions of Article 33 Paragraph (3), The Constitution of 1945 Republic of Indonesia." *Jurnal UIR Law Review* 4, no. 2 (2020): 1-8.

⁵ See Rizky Juliani Wulansari, Yulia Qamariyanti, and Erlina Erlina. "Right of Access to Area of Depreciated Land Regulation with the Law Perspective of Land Registry in Indonesia." *Lambung Mangkurat Law Journal* 4, no. 2 (2019): 222-233.

boundary definitions, as stipulated in Government Regulation Number 24 of 1997 concerning land registration.⁶

A critical component of land registration is the measurement process, which must be conducted only after confirming that boundary markers have been installed at each corner of the parcel to be measured. Landowners are obligated to install and maintain these boundary markings, as outlined in Article 17 of Government Regulation Number 24 of 1997. This requirement is designed to prevent disputes over land boundaries with neighboring landowners. Boundaries are typically established by the landowners involved, and any contradictions regarding these boundaries fall under the principle of Delimitation Contradiction.⁷

To resolve such contradictions, a certificate must be signed by both the landowner and the adjoining landowner, along with the village or kelurahan head. This agreement is documented in the Entry List 201, which can be obtained from the Land Office. Both of these written evidences are prerequisites for submitting a request for measurement or determination of land parcel boundaries to the Land Office. Importantly, the Land Office will reject any measurement requests that do not adhere to the principle of contradiction, underscoring the importance of proper boundary marking and mutual agreement among landowners.

As outlined in Articles 14 to 19 of Government Regulation Number 24 of 1997 concerning Land Registration, which refines Government Regulation Number 10 of 1961, the establishment of land parcel boundaries is crucial for providing legal certainty and protection to rights holders. Legal certainty regarding property ownership must first be determined through the precise demarcation of these boundaries.⁸

⁶ Richard Richard, et al. "Regional regulation of land registration in Indonesia related to government regulation no. 24 of 1997 concerning land registration." *International Journal of Civil Engineering and Technology (IJCIET)* 9, no. 10 (2018): 270-280; Gabriella Talenta Sekotibo, "The Strength of Evidence (Certificate) in Land Rights Disputes According to Government Regulation No. 24 of 1997 Concerning Land Registration." *Journal of Human Rights, Culture and Legal System* 1, no. 2 (2021): 123-134.

⁷ See Dwi Budi Martono, et al. "The legal element of fixing the boundary for Indonesian complete cadastre." *Land* 10, no. 1 (2021): 49; Trias Aditya, et al. "Validation and collaborative mapping to accelerate quality assurance of land registration." *Land Use Policy* 109 (2021): 105689; Ferdy Nugraha, "Azas Contradictoire Delimitatie dalam Pendaftaran Tanah." *UNES Law Review* 5.1 (2022): 90-98.

⁸ Satriyo Ardi Kartono, "Politik Hukum Pertanahan dalam Rangka Percepatan Pendaftaran Tanah di Indonesia." *Jurnal Esensi Hukum* 2, no. 1 (2020): 97-112; Christina Tri Budhayati, "Jaminan Kepastian Kepemilikan Bagi Pemegang Hak Atas Tanah dalam

Data on the locations of land parcel boundaries are recorded in Measurement Drawings, which are maintained at the Land Office for as long as the land parcels exist. This information is essential for reconstructing land parcel boundaries in the event that they become lost or obscured over time. During the measurement process, both landowners and adjacent landowners may witness and confirm the boundary marks on the Measurement Drawings by providing statements affirming that the boundary marks have remained unchanged since the previous contradictory statement.

However, the natural liquefaction disaster that occurred in Balaroa and Petobo Subdistricts of Palu City has significantly disrupted the landscape, causing shifts in land and displacing buildings and vegetation from their original positions. This alteration presents potential legal disputes in the future, particularly when landowners or their heirs seek to assert ownership over land that has changed in both location and extent. The implications of such shifts raise important questions regarding the stability of property rights and the legal recognition of altered boundaries, necessitating careful consideration of how to address these challenges within the existing legal framework.⁹

Survivors of natural disasters, particularly those affected by events such as liquefaction, often face the devastating loss of their homes and possessions. Despite this profound loss, it is important to recognize that these victims do not forfeit their ownership rights to the land they held prior to the disaster. The principle that ownership rights remain intact is grounded in the understanding that liquefaction is an uncontrollable natural phenomenon, one that lies beyond human influence.¹⁰

Furthermore, Law Number 5 of 1960 concerning Basic Agrarian Regulations explicitly does not recognize the annulment of land ownership rights due to natural disasters.¹¹ This legal framework provides essential

Pendaftaran Tanah Menurut UUPA." *Refleksi Hukum: Jurnal Ilmu Hukum* 2, no. 2 (2018): 125-138.

⁹ Nurhilma Lestari, "Status Hak Atas Tanah Pasca Bencana Likuifaksi dan Rencana Tata Ruang Wilayah di Kota Palu." *Jurnal Hukum dan Kenotariatan* 5, no. 1 (2021): 160-172; Tiara Dwi Rahayu, Yani Pujiwati, and Betty Rubiati. "Kepastian Hukum Kepemilikan Hak Atas Tanah Setelah Mengalami Likuifaksi Tanah." *LITRA: Jurnal Hukum Lingkungan, Tata Ruang, dan Agraria* 2, no. 2 (2023): 250-266.

¹⁰ See Nursamsir Nursamsir, et al. "The Social and Political Aspects of Permanent Housing Provision for Earthquake Tsunami and Liquefaction Casualties in Palu City, Central Sulawesi." *JKAP (Jurnal Kebijakan dan Administrasi Publik)* 26, no. 2 (2022): 85-101.

¹¹ Law Number 5 of 1960 concerning Basic Agrarian Regulations (UUPA) explicitly states that land ownership rights are not annulled due to natural disasters, providing crucial legal protection for landowners in Indonesia. This provision ensures that even when natural

protection for landowners, ensuring that their rights are preserved even in the face of catastrophic events. Therefore, while the physical attributes of the land may have changed, the legal rights associated with ownership remain valid, underscoring the importance of legal recognition for the restoration of affected communities and individuals.

As outlined in Article 27 of Law Number 5 of 1960 concerning Basic Agrarian Regulations, property rights may be revoked under certain circumstances. One such condition is when land falls into the hands of the State due to revocation of rights, voluntary surrender by the owner, abandonment, or specific provisions in the law.¹² Additionally, property rights may be revoked if the land is deemed to be destroyed. However, in the context of natural disasters like liquefaction, the land is not truly destroyed; rather, it has shifted or moved from its original position. This crucial distinction indicates that survivors of such disasters retain the possibility of reclaiming their land. The legal framework recognizes that while the physical characteristics of the land may have changed, ownership rights remain intact.

Land ownership is fundamentally defined by established boundaries, which are documented and recognized through legal instruments recorded with the National Land Agency (BPN). This legal structure is vital in ensuring that landowners, especially those affected by natural disasters, receive adequate

events, such as earthquakes or floods, alter the physical state of land, the legal title remains intact. This continuity of ownership fosters a sense of legal certainty among landowners, allowing them to plan for the future, invest in their properties, and engage in economic activities without fear of losing their rights. Furthermore, this legal protection helps minimize disputes that may arise between neighboring landowners after a disaster, thus promoting social harmony. By safeguarding ownership rights, the UUPA facilitates recovery efforts, enabling affected individuals to rebuild without the burden of contested claims over land. This stability not only supports individual landowners but also contributes to broader economic growth, as secure land titles encourage investment and improve access to financing and insurance. Ultimately, the UUPA's explicit recognition of the permanence of land ownership rights in the face of natural disasters enhances community resilience and fosters a more secure environment for socio-economic development. *See also* Reza Nur Amrin, et al. "Status Hukum Hak Atas Tanah Yang Terkena Bencana Alam." *Tunas Agraria* 5, no. 1 (2022): 65-76; Bagus Rahmanda, "Perlindungan hukum bagi pengusaha pemilik tanah akibat musnahnya tanah oleh bencana alam dan kaitannya dengan pihak ketiga." *Gema Keadilan* 6, no. 1 (2019): 63-74.

¹² Blessinta Joice Sinaga, Sani Chablitta Siregar, and Yanti Agustina. "Tinjauan Yuridis terhadap Hapusnya Hak Milik Atas Tanah Akibat Penelantaran Ditinjau dari Pasal 27 Undang-Undang Pokok Agraria." *Syntax Literate; Jurnal Ilmiah Indonesia* 7, no. 5 (2022): 6329-6337.

protection and legal assurance regarding their rights. In situations where land has been altered in size and location, these legal instruments must provide a robust foundation for affirming the ownership rights of individuals who have experienced loss. Ultimately, the legal system must adapt to support victims in reclaiming their land and restoring their livelihoods, emphasizing the enduring nature of property rights even amid environmental upheaval.¹³

Furthermore, the 2018 earthquake and liquefaction in Palu, Indonesia, significantly impacted land rights and ownership, prompting efforts to reclaim legitimacy. The National Land Office (BPN) implemented measures to provide legal certainty for affected lands, prohibiting habitation in disaster-prone zones and registering partially destroyed lands.¹⁴ While liquefaction did not eliminate land rights, it obscured plot boundaries, necessitating government intervention.¹⁵ Legal remedies included land acquisition for public interest, using abandoned land to relocate affected communities and construct permanent housing.¹⁶ However, compensation issues remained complex, as exemplified by the Lalove Bridge construction project in Palu City.¹⁷ The government's efforts aimed to balance public needs with landowners' rights, emphasizing the social function of land while addressing the challenges of providing fair compensation and legal protection for affected landowners.¹⁸

Based on the background of the problem outlined above, this study will address key research questions regarding the changes in land ownership rights following the liquefaction disaster in Palu City. The first question focuses on the legality of these changes in position and area of land ownership. It aims to

¹³ See Laurens Bakker, and Sandra Moniaga. "The space between: Land claims and the law in Indonesia." *Asian Journal of Social Science* 38, no. 2 (2010): 187-203.

¹⁴ Sudjito Sudjito, Shindy Nadya Sampelan, and Tatit Hariyanti. "Legal Security of Land Ownership Post Earthquake in Palu." *Melayunesia Law* 6, no. 2 (2022): 191-204.

¹⁵ Rahmia Rachman, and Erlan Ardiansyah. "Status of Land Rights Post Liquefaction." *2021 Tadulako's International Conference on Social Sciences (TICoSS 2021)*. Atlantis Press, 2022.

¹⁶ Suwardi Suwardi, and Auriga Pradipta, "Legal remedies for land rights affected by acquisition to the construction of permanent housing fulfilling the need for post-earthquake shelter in Palu." *Research, Society and Development* 10, no. 6 (2021): e59810616552; Rachman, and Ardiansyah. "Status of Land Rights Post Liquefaction."

¹⁷ Darwat Pakki, and Marini Citra Dewi. "Pelaksanaan Pengadaan Tanah Untuk Kepentingan Umum Terhadap Pembangunan Jembatan Lalove Kota Palu." *Maleo Law Journal* 6, no. 1 (2022): 1-14.

¹⁸ Suwardi, and Pradipta, "Legal remedies for land rights affected by acquisition to the construction of permanent housing fulfilling the need for post-earthquake shelter in Palu." See also Pakki, and Dewi. "Pelaksanaan Pengadaan Tanah Untuk Kepentingan Umum Terhadap Pembangunan Jembatan Lalove Kota Palu."

explore how existing legal frameworks respond to the shifting boundaries and altered dimensions of land that result from natural disasters. Understanding the legal implications is crucial for assessing the rights of landowners and the potential pathways for reclamation.

The second research question examines the efforts of land rights holders in obtaining legal recognition of their ownership for land whose position and area have changed at the Palu City National Land Office. This inquiry seeks to illuminate the challenges faced by landowners as they navigate the complexities of the legal system. By investigating the processes and mechanisms available to them, the study aims to provide insights into how landowners can effectively reclaim their rights amid the aftermath of a disaster.

In addition to these legal considerations, the research will delve into the socio-economic implications of changes in land ownership following natural disasters. Affected landowners often experience significant financial hardships, losing not only their homes but also their livelihoods. The lack of clear legal guidelines can exacerbate these challenges, leading to prolonged disputes and further destabilizing communities. By analyzing the legal responses to land ownership issues in the wake of the Palu liquefaction disaster, this case study aims to identify best practices and propose policy recommendations. Ultimately, the findings will contribute to enhancing resilience and protecting property rights in similar contexts, ensuring that affected communities can rebuild and recover more effectively.

This research employs an empirical qualitative methodology with a case study design, focusing on the legality of land ownership rights that have changed in position and extent at the Palu City National Land Office. It also examines the efforts of land rights holders to obtain legal recognition for their altered land ownership rights at the Palu National Land Agency. The chosen research site, the National Land Agency Office in Palu City, is deemed the most suitable location for gathering relevant data on the research topics.

Data collection techniques for this study include interviews and a literature review. The interview process involves conducting direct discussions with informants who are expected to provide valid and credible insights related to the issues under investigation. Additionally, the literature review entails gathering information by analyzing pertinent laws, regulations, and relevant literature that addresses the research problems. This combination of methods aims to ensure a comprehensive understanding of the legal and practical implications of land ownership changes following the disaster.

Challenging Legitimacy: Land Ownership Rights After Position Changes from Palu City's Liquefaction Disaster

Rapid population growth, coupled with advancements in economic, social, cultural, and technological sectors, has led to an increasing demand for land.¹⁹ In light of this reality, the verification of land ownership rights becomes crucial, particularly as the number of individuals seeking to utilize land continues to rise.²⁰ Meanwhile, the available land area remains constant or may even diminish due to natural processes or other factors. This dynamic underscores the importance of establishing clear and legally recognized ownership rights to address the growing competition for land resources.

The significance of land in human life is paramount, leading many individuals to aspire to land ownership. This desire can result in legal consequences, differing opinions, disputes, and even conflicts within families regarding land tenure and ownership. Commonly, boundary disputes arise within communities due to unclear demarcations on all sides—east, west, north, and south. To mitigate these issues, the government has established a legal framework governing land rights.²¹ As noted by E. Utrecht, conflicts arising from competing human interests can lead to societal chaos, particularly in the absence of a regulatory authority to maintain order and balance these conflicting interests.²²

In response to these challenges, on September 24, 1960, the Government of the Republic of Indonesia enacted Law Number 5 of 1960 concerning Basic Agrarian Regulations (UUPA). This legislation marked a fundamental shift in land law in Indonesia, aiming to establish a framework that provides legal certainty regarding land rights through comprehensive land registration.

According to an interview with Mr. Hosea Lintin, head of the Palu City National Land Agency, several critical considerations must be addressed prior

¹⁹ William B. Meyer, and Billie L. Turner. "Human population growth and global land-use/cover change." *Annual Review of Ecology and Systematics* (1992): 39-61; Eric F. Lambin, et al. "The causes of land-use and land-cover change: moving beyond the myths." *Global Environmental Change* 11, no. 4 (2001): 261-269.

²⁰ Klaus Deininger, et al., eds. *Innovations in land rights recognition, administration, and governance*. (Washington DC: World Bank Publications, 2010).

²¹ Derek Hall, Philip Hirsch, and Tania Murray Li. "Powers of exclusion: Land dilemmas in Southeast Asia." *Philosophy East and West* 63, no. 2 (2013).

²² Ernst Utrecht, "Land Reform in Indonesia." *Bulletin of Indonesian Economic Studies* 5, no. 3 (1969): 71-88.

to land registration. One key aspect is the land measurement process, which requires that boundary stakes or markers be installed at every corner of the plot to be measured before the measurement can commence. In addition, the implementation of land registration encompasses several critical components, including measurement, mapping, bookkeeping of land, and the issuance of certificates as proof of land rights. Before any measurement can take place, the boundaries of the land must be clearly defined, adhering to the "*delimitation contradiction*" principle. Failure to meet this requirement renders subsequent activities futile; measurement cannot proceed, and thus mapping, bookkeeping, and the issuance of title certificates will be prohibited.²³

Once the principle of contradiction is satisfied and agreements have been reached among bordering landowners, the measurement process can advance. This task is typically carried out by a measuring officer from the land office. However, if boundary markings need to be installed during the measurement process, the landowner may have to undertake this measurement themselves. All data regarding the dimensions of land parcel boundaries, recorded in the field and represented in measurement drawings, must be meticulously stored at the land office for as long as the land parcels remain available.²⁴

This data is particularly crucial for future reconstruction of land boundaries in the event they are lost or shifted, as seen in several areas of Palu City following the catastrophic earthquake, tsunami, and liquefaction that struck on September 28, 2018. In the aftermath of these disasters, many plots of land experienced significant changes in both position and area, emphasizing the importance of maintaining accurate and accessible land records.²⁵

²³ See Rahmat Ramadhani, and Ummi Salamah Lubis. "The Function of the Delimitation Contradictory Principle in the Settlement of Land Plot Boundary Disputes." *International Journal Reglement & Society (IJRS)* 2, no. 3 (2021): 136-148; Dian Patarida Sitorus, I. Gusti Ayu Ketut Rachmi Handayani, and Lego Karjoko. "Development of the Implementation of the Principle of Contradiction Delimitation in the Process of Complete Systematic Land Registration (PTSL)." *International Journal of Educational Research & Social Sciences* 4, no. 3 (2023): 566-573.

²⁴ Trias Aditya, et al. "Participatory land administration in Indonesia: Quality and usability assessment." *Land* 9, no. 3 (2020): 79. See also Franklin Obeng-Odoom, "Valuing unregistered urban land in Indonesia." *Evolutionary and Institutional Economics Review* 15, no. 2 (2018): 315-340.

²⁵ Hartato Kurniawan Ratode, Tanjung Nugroho, and Yendi Sufyandi. "Analisis Perubahan Bidang Tanah Terdaftar Akibat Gempabumi dan Likuifaksi Palu Tahun 2018." *Tunas Agraria* 4, no. 1 (2021): 82-94. See also Y. Darma, and B. Sulistyantara. "Analysis of landscape impact on post-earthquake, tsunami, and liquefaction disasters in Palu City, Central Sulawesi." *IOP Conference Series: Earth and Environmental Science*. Vol. 501. No. 1. IOP Publishing, 2020; Sukiman Nurdin, et al. "The change of land use and land

Interviews with five informants reveal a consistent concern regarding the shifting positions of their land. Mr. Tomy, a resident of the Besusu Tengah sub-district, expressed that his land and buildings have shifted approximately 0.7 to 1 meter from their original locations. He reported this issue to the Palu City National Land Agency, citing his fear of potential disputes arising from the altered position due to the earthquake that occurred in September 2018.

Similarly, informants from East Besusu Village reported comparable shifts in land boundaries. Mr. Ansar noted that his land and building have moved approximately 50 centimeters from their original location. He also mentioned that the adjacent properties have experienced similar shifts. Mr. Ansar confirmed that he and his neighbors have brought this issue to the attention of the Palu City National Land Agency, highlighting the urgency of addressing these changes to prevent future disputes. These accounts illustrate the widespread impact of the natural disaster on land ownership and the pressing need for effective resolution mechanisms.

The interviews with informants highlight that land can shift from its original position due to natural disasters, which can have significant implications for the legality of land ownership. Without agreements among neighboring landowners, such shifts may lead to disputes over land boundaries. In this context, data from land registration becomes essential, as it provides a framework for legal certainty. Effective land registration results in the issuance of certificates of proof of rights, which serve as strong legal evidence, as articulated in several provisions of Law Number 5 of 1960 concerning Basic Agrarian Regulations.

Specifically, Article 19, paragraph (2), letter c states that "*letters of proof of rights are valid as a strong means of proof.*" Article 23, paragraph (2) asserts that registration serves as a robust means of proof regarding the extinguishment of property rights and the validity of their transfer and encumbrance. Additionally, Article 32, paragraph (2) affirms that registration offers strong evidence concerning the transfer and termination of usufructuary rights, except in cases where such rights are terminated upon expiration. Finally, Article 38, paragraph (2) emphasizes that registration acts as a powerful means of proof regarding the termination of building use rights and the validity of their transfer, barring cases where such rights are deleted due to expiration. These legal provisions underscore the critical role of land registration in ensuring clarity and reducing

suitability of agriculture due to flow liquefaction in Palu and Sigi valley after the Palu earthquake in September 2018." *E3S Web of Conferences*. Vol. 340. EDP Sciences, 2022.

the potential for disputes arising from shifts in land position, particularly in the aftermath of natural disasters.

To ensure legal certainty in land tenure and ownership, the clarity of location and boundaries for each plot of land is paramount. Recent cases, as discussed by the researchers, illustrate the urgency of establishing proof of land ownership, particularly in the aftermath of natural disasters that have caused shifts in land positions.

According to Article 19, paragraph (2), letter c of the Basic Agrarian Law (UUPA) and Article 32, paragraph (1) of Government Regulation Number 24 of 1997 concerning Land Registration, certificates serve as official evidence of land rights. These certificates are issued by the Regency/City Land Office following a formal land registration process. Consequently, if a land parcel has not been registered, it will lack a corresponding certificate.

However, legal provisions do not stipulate certificates as the sole means of proving land rights. It is important to recognize that the general principles of evidentiary law also apply to the proof of land rights. As articulated in Article 1, number 20 of Government Regulation Number 24 of 1997, a certificate is defined as proof of title, in accordance with Article 19, paragraph (2), letter c of the UUPA, covering various types of land rights, including management rights, waqf land, ownership rights to housing units, and stacking and mortgage rights. Each of these rights must be duly recorded in the relevant land book, further reinforcing the need for comprehensive land registration to ensure legal clarity and protect property rights.

According to these provisions, the technical specifications regarding land certificates were initially outlined in Government Regulation Number 10 of 1961. This regulation defined certificates as copies of land books and measurement letters, compiled and covered to provide a comprehensive record. Certificates issued by the National Land Agency (BPN) contain both physical data, such as the location, boundaries, and area of the land parcels, and juridical data, which pertains to the subject of rights, the basis for those rights, and any encumbrances on the land. This data is collected from certificate applicants and verified through inspections conducted by BPN during the land registration process. Consequently, land shifts that result in relocation from one site to another do not undermine the legality of land ownership.²⁶

²⁶ Wita Pemerhati Rasa, and Deden Sumantry. "The Legal Properties of Indemnity as Prevention of Ownership and Implementation of Conversion of Land Rights Based on Law Number 5 Year 1960 Concerning Agrary Basics." *International Journal of Latin Notary* 1, no. 2 (2021): 57-71. See also Sediono MP. Tjondronegoro, "Land policies in Indonesia." *World Bank Working Paper* 37435 (2003).

This viewpoint is supported by an interview with the Head of the Palu City National Land Office, who stated: “*after the earthquake, tsunami, and liquefaction that affected Palu City, we observed numerous cases of land shifting from its original position, some by as much as one meter, and others by tens of meters. However, the legality of ownership for these shifted lands remains intact, despite the changes in location.*”

Additionally, Mr. Respati Jaya Lesmana, a Measurement Officer, emphasized the procedures in place to address land shifts post-disaster: “*to resolve the issue of land shifting that occurred after the earthquake, particularly in Palu City, we have conducted re-measurements based on requests from landowners. This process involves the participation of neighboring landowners, and so far, it has proceeded smoothly, with no objections raised. This situation arises not from human agency but as a result of the disaster.*”

To initiate a re-measurement, applicants must present proof of ownership or original documents that substantiate their land rights. Acceptable forms of evidence encompass various legal instruments and documents. For instance, a *grosse akta eigendom* right issued under the Overschrijvings Ordonatie (S.1834-27) is valid if annotated to indicate the conversion to property rights. Additionally, a *grosse akta eigendom* right issued from the enactment of the UUPA until the date of land registration in accordance with Government Regulation Number 10 of 1961 is also recognized.²⁷

Other forms of proof may include documentation that complies with relevant Swapraja Regulations or certificates of ownership rights issued under the Regulation of the Minister of Agrarian Affairs Number 9 of 1959. Certificates issued by authorized officials, whether before or after the enactment of the UUPA, are acceptable as long as they meet the stipulated obligations and do not require registration.

Furthermore, a deed of transfer of rights made privately and signed by the Head of Customs, Village, or Kelurahan before the implementation of the regulation is considered valid. Similarly, deeds executed by the PPAT for unrecorded land, waqf pledge documents created before or after Government Regulation Number 28 of 1977, and minutes of auctions conducted by authorized auctioneers for unrecorded land are also permissible.

²⁷ See also Dian Aries Mujiburohman, "Legalisasi Tanah-Tanah Bekas Hak Eigendom." *Jurnal Yudisial* 14, no. 1 (2021): 117-137; Tri Widiyono, and Md Zubair Kasem Khan. "The Legal Philosophy and Justice Values in the Acquisition of Land Rights in Indonesia: A Normative Legal Research." *International Journal of Law Reconstruction* 6, no. 2 (2022): 278-298.

In cases involving government expropriation, a letter of appointment or purchase for exchanged land parcels can serve as evidence. Other documentation may include land-related records such as Land/*Landrete*, *girik*, *pipil*, *kekitir*, and Indonesian Verponding tax documents issued prior to the enactment of Government Regulation Number 10 of 1961, as well as certificates of land history from the Land and Building Tax Service Office. Additionally, any other written evidence as specified in Articles II, VI, and VII of the UUPA Conversion Provisions can be utilized to support ownership claims.²⁸

These various forms of evidence are critical for verifying ownership and facilitating the resolution of disputes resulting from shifts in land position.

If the written proof of ownership for a plot of land is incomplete or no longer available, alternative forms of proof may be utilized, such as witness statements or credible testimonies from relevant individuals. In this context, a witness is defined as a person who is capable of providing reliable testimony and possesses knowledge about the ownership in question. The Adjudication Committee or the Head of the Land Office will assess the trustworthiness of these statements to determine the validity of the ownership claims. This approach underscores the importance of community knowledge and testimonial evidence in resolving disputes related to land ownership, particularly in situations where formal documentation may be lacking.

Efforts by Landowners to Reclaim Legitimacy for Shifting Land Rights at Palu City's National Land Office

Land is a natural resource of significant strategic value for human existence. In the framework of Indonesian land law, it is articulated that all land in Indonesia is considered a divine gift to its people. Given the vital role land plays in sustaining human life, the establishment of legal provisions for land management becomes essential. As noted by Wirjono Prodjodikoro, there is a pressing public need for regulations that ensure legal certainty in land

²⁸ See also Khusnul Hidayati, "Cancellation Of Land Ownership Certificates Due to Administrative Defects Based on Legal Certainty." *Ratio Legis Journal* 3, no. 1 (2024): 121-130.

ownership, allowing each landholder to defend their property against encroachments by others.²⁹

In this context, the national agrarian law delineates land rights into two primary categories: primary rights and secondary rights. Primary rights are those that derive directly from the rights of the Indonesian nation and can be owned or controlled by individuals or legal entities. These include property rights, building use rights, and usufructuary rights. In contrast, secondary rights encompass temporary land rights, such as lien rights, profit-sharing rights, the right to reside, and the right to rent agricultural land. This classification underscores the importance of both securing individual land ownership and providing a framework for various forms of land use within the broader legal system.³⁰

Among the various types of land rights, property rights hold a unique and robust position as the only primary rights that confer the strongest legal standing. This is underscored by Article 20, paragraph (1) of the UUPA, which asserts that “*Property rights are hereditary, strongest, and fullest rights that individuals can possess over land.*” This designation highlights the social and hereditary functions of property rights, indicating that they can be transferred to heirs upon the owner's death, thus ensuring continuity of ownership.³¹

To guarantee protection and legal certainty for land ownership rights, the Basic Agrarian Law introduces a mechanism known as *land registration*, or *Recht Cadastral*, as outlined in Government Regulation Number 24 of 1997 concerning Land Registration. This regulatory framework establishes legal certainty for registered land, providing strong evidence of ownership through the issuance of certificates. Furthermore, land registration serves to mitigate

²⁹ Wirjono Prodjodikoro, *Perbuatan Melawan Hukum*. (Jakarta: Sumur Bandung, 1984). See also Iwan Permadi, "Electronic title certificate as legal evidence: The land registration system and the quest for legal certainty in Indonesia." *Digital Evidence and Electronic Signature Law Review* (2023): 47-61; Bambang Slamet Riyadi, and Sudjito Atmoredjo. "Politic of economy law in Indonesia: Land certification program in the framework of legal certainty on land title and its impact on community economic empowerment." *International Journal of Law* 6, no. 2 (2020): 16-23.

³⁰ Slamet Widodo, "A critical review of Indonesia's agrarian reform policy." *Journal of Regional and City Planning* 28, no. 3 (2017): 204-218. See also Anggita Doramia Lumbanraja, "Prospects of Indonesian Agrarian Law System Reform to Provide the Welfares." *Jurnal Hukum Progresif* 11, no. 2 (2023): 133-144.

³¹ See Bambang Sudiarto, "Subyek Hak Milik Atas Tanah Menurut UUPA." *Al-Qisth Law Review* 5, no. 1 (2021): 1-43.

disputes within the land sector, reinforcing the stability and clarity of land tenure in Indonesia.³²

Article 1, point (1) of the General Provisions in Government Regulation Number 24 of 1997 concerning Land Registration defines land registration as a comprehensive series of activities undertaken by the government on a continuous and systematic basis. This process encompasses the collection, processing, bookkeeping, presentation, and maintenance of both physical and juridical data related to land, which includes maps and lists of land parcels as well as housing units and flats. A key aspect of this registration is the issuance of certificates that serve as proof of rights for land parcels that already possess ownership rights, as well as for apartment units and certain encumbering rights.

Moreover, Article 3, letter (a) of the same regulation emphasizes that the primary objective of land registration is to provide legal certainty and protection to holders of rights over land parcels, apartment units, and other registered rights. This framework ensures that these rights holders can readily establish their ownership. Furthermore, Article 4, letter (a) stipulates that to enhance the legal certainty and protection mentioned in Article 3, a certificate of land rights will be granted to the respective rights holders, reinforcing the legal standing of their claims.

The certificate, as articulated in the aforementioned provisions, serves as a valid proof of ownership and is recognized as a strong means of legal evidence. This validity is contingent upon the alignment of physical and juridical data documented in the land book and the associated measurement certificate. While the primary aim of land registration is to establish robust proof of title, it is evident that many members of our society lack such evidence of land ownership, as stipulated in the UUPA.

Numerous individuals occupy and assert rights over land based solely on customary claims or oral inheritance passed down through generations, without any formal legal documentation. This lack of written proof poses significant risks, particularly in scenarios where a third party intervenes and asserts ownership of the same land, bolstered by strong evidence. Such situations are fraught with potential conflict, as the absence of legal clarity can lead to disputes between the original occupants and the claimants, jeopardizing the rights and security of all parties involved.

³² Listyowati Sumanto, "The future on publication system of land registration in Indonesia." *International Journal of Scientific & Technology Research* 9, no. 3 (2020): 1399-1404; Ricco Survival Yubaidi, Mazliza Mohamad, and Saidatul Nadia Abd Aziz. "Land registration acceleration in Indonesia: A lesson-learned guideline from land registration issues in Malaysia." *UUM Journal of Legal Studies* 13, no. 1 (2022): 155-174.

To provide protection against potential disputes and to ensure legal certainty for citizens' land rights, the government has underscored the necessity of obtaining land certificates. These certificates hold significant implications for land ownership. To this end, various regulations have been established, ranging from general principles to technical procedures related to land registration and the processing of land certificates. The primary objective of these regulations is to offer legal certainty to land rights holders.³³

In cases where there are changes in physical data—such as the location, boundaries, or area of land parcels—or in the juridical data of registered land, it is essential to maintain accurate land registration records. The right holder is obligated to register any amendments with the Land Office.

Insights from interviews with five personnel from the Palu City Land Agency revealed a consistent approach to addressing land shifts. Mr. Bambang Yudho Setyo, the Head of the Infrastructure Section at the Palu City Land Office, noted, "*When there is a reported shift in land, our solution involves re-measuring the land. We engage all relevant parties, particularly those whose land is directly adjacent, and facilitate discussions regarding the boundary changes. If all parties reach an agreement, we proceed to update the boundaries of the shifted land.*" This collaborative approach underscores the importance of dialogue in resolving land disputes and maintaining legal clarity.

Given that land ownership is regulated, has defined boundaries, and is recognized by law through instruments registered with the National Land Agency (BPN), the authority and efficacy of these legal instruments must be reaffirmed in situations where land shifts occur. This situation necessitates a re-measurement of the land based on the original location data recorded at the BPN or the land and agrarian agency.

Modern land ownership documents increasingly incorporate GPS (Global Positioning System) coordinates, which enable precise identification of land boundaries. These technological advancements facilitate the easy retrieval of current data on land ownership rights. However, it is important not to rely solely on technology; records stored in agrarian institutions also play a crucial

³³ Putu Gede Arya Sumerta Yasa, et al. "Legal Politics of Land Rights Certification in The Indonesian Context: Between Agrarian Conflicts and Demands for Legal Certainty." *International Journal of Criminology and Sociology* 10 (2021): 897-905. See also Hariyanto Hariyanto, Idamatussilmi Idamatussilmi, and Daud Risma. "The government's role in legal protection of land ownership: Urutsewu case." *Legality: Jurnal Ilmiah Hukum* 32, no. 2 (2024): 277-291.

role in resolving disputes.³⁴ Disputes may arise, particularly in cases where intact buildings are located on land that has shifted. For buildings that have sustained minor damage due to displacement, demolishing them can lead to unnecessary waste of resources. Instead of opting for demolition, it would be more prudent for affected parties to seek compromise solutions. Engaging in collaborative discussions could help both parties, as victims of the disaster, find a resolution that preserves their rights while also addressing the changes in land boundaries. This approach underscores the importance of dialogue and negotiation in the aftermath of natural disasters, emphasizing the need for legal instruments to adapt to changing circumstances while ensuring protection for landowners.³⁵

Conclusion

This research finally concluded that natural disasters can lead to significant shifts in land positions, which can complicate the legality of land ownership, especially in the absence of mutual agreements among neighboring landowners. Such disputes highlight the critical role of land registration, as it provides essential legal certainty and strong proof of ownership rights. Without accurate land registration, conflicts may escalate, undermining community stability and individual rights.

To mitigate these challenges, it is imperative for landowners to promptly report any changes in their land's position to the National Land Agency. This proactive approach will facilitate timely re-measurements and help maintain accurate records. Additionally, the government should consider establishing specific regulations addressing land shifts to further ensure legal certainty for affected communities. Such measures will not only protect individual land rights but also contribute to broader societal stability in the aftermath of natural disasters.

³⁴ Willem Jan Wakker, Paul van der Molen, and Christian Lemmen. "Land registration and cadastre in the Netherlands, and the role of cadastral boundaries: The application of GPS technology in the survey of cadastral boundaries." *Journal of Geospatial Engineering* 5, no. 1 (2003): 3-10; Vikky Aprelia Windarni, Eko Sedyono, and Adi Setiawan. "Using GPS and Google maps for mapping digital land certificates." *2016 International Conference on Informatics and Computing (ICIC)*. IEEE, 2016.

³⁵ Kirnasari Hanum Masayu, et al. "Philosophical Basis of Legal Regulation to Provide Legal Certainty for Certificate Holders of Building Use on Land Management Rights." *Russian Journal of Agricultural and Socio-Economic Sciences* 120, no. 12 (2021): 63-74. See also Daniel Fitzpatrick, "Disputes and pluralism in modern Indonesian land law." *Yale Journal of International Law* 22, no. 1 (1997): 171-212.

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Acknowledgment

None

Funding Information

None

Conflicting Interest Statement

The authors state that there is no conflict of interest in the publication of this article.

History of Article

Submitted : June 13, 2023

Revised : September 30, 2023; December 3, 2023; March 17, 2024

Accepted : April 28, 2024

Published : May 9, 2024