

# Establishing ecological justice in the governance of land inventory, ownership, and utilisation in Indonesia



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## Abstract

*This study examines ecological justice in IP4T governance as required by TAP MPR IX/2001 and Government Regulation No. 16/2004 on Land Administration. This work employs normative legal research with legislative and conceptual techniques. The author investigated ecological fairness in IP4T legislation in TAP MPR IX/2001 and Government Act Number 16 of 2004 on Land Development. The two laws encourage ecological justice, sustainable development, and damage prevention. All Spatial and Regional Plans must contain the IP4T map per Government Regulation No. 16/2004 Article 23. This map transcends land ownership, use, and utilization. The IP4T dataset evaluates land capabilities and ecological factors. Thus, a region's Spatial and Regional Plan must eliminate IP4T land tenure, usage, evaluation, and capability data. Ecological justice is defined in TAP MPR IX/2001 Articles 3, 5, and 6 Paragraph (2). Disparities hinder ecological justice in practice. Discrepancies are common in the mining industry IP4T implementation.*

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## 1. Introduction

Efforts to alter land laws in Indonesia have been ongoing since the establishment of the UUPA. Nevertheless, these endeavors have not yet matched the changing requirements of the vibrant society, leading to a dearth of concrete and beneficial legal standards (*ius constitutum*). However, land law reform continues to be implemented by issuing legislative instruments related to the UUPA.<sup>1</sup> After the New Order administration ended, the People's Consultative Assembly passed Decree No. IX/2001, which dealt with

<sup>1</sup> Darwin Ginting, 'Reformasi Hukum Tanah Dalam Rangka Perlindungan Hak Atas Tanah Perorangan Dan Penanam Modal Dalam Bidang Agrobisnis', *Jurnal Hukum Ius Quia Iustum*, 18.1 (2011), 63–82 <<https://doi.org/10.20885/iustum.vol18.iss1.art4>>.

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the reform of Agrarian Reform and Natural Resource Management, specifically focusing on the UUPA.<sup>2</sup> There are several fundamental reasons linked to the issue of this MPR order. The following are the reasons: The Indonesian nation regards the agrarian and natural resources, including the land, water, space, and their contents, as a sacred gift. These resources are regarded as valuable national assets that deserve to be recognized with appreciation. Therefore, it is crucial to efficiently oversee and employ these resources to attain fairness and affluence for both present and future generations. Furthermore, the Constitutional mandate of the MPR involves setting the course and basis for national development that can efficiently tackle problems like as poverty, inequality, socio-economic injustice, and environmental degradation.<sup>3</sup>

Moreover, the current administration of agricultural and natural resources has led to a decline in environmental conditions, inequalities in governance, ownership, and use, and the occurrence of several disputes. The legislation regarding the management of agricultural and natural resources demonstrates occurrences of overlap and contradiction. Adopting fair, enduring, and environmentally conscious methods for managing agricultural and natural resources requires a unified and comprehensive approach. This strategy should encompass the dynamic characteristics of these resources, the objectives of the community, and their proactive participation. Furthermore, it should effectively handle any potential conflicts that may occur during the procedure. To fulfill the noble aspirations of the Indonesian nation, as stated in the preamble of the 1945 Constitution of the Republic of Indonesia, it is crucial to establish a strong political commitment that will serve as the basis and direction for carrying out agrarian reform and managing natural resources. This commitment should give priority to the ideals of equity, durability, and ecological awareness.<sup>4</sup>

To achieve these goals, agricultural reform and natural resource management must encompass various concepts, including but not limited to: 1. Ensuring and protecting the unity and integrity of the centralized government of the Republic of Indonesia. 2. It is crucial to exhibit profound respect for and protect human rights. 3. Embracing the integration of multiple perspectives in legal harmonization is crucial for demonstrating deference towards the rule of law. 4. Improve the overall welfare of the population, namely by boosting the quality of human resources in Indonesia. The goals encompass the promotion of democratic ideals, compliance with legal frameworks, the facilitation of transparency, and the improvement of community interaction. 6. Promoting gender

<sup>2</sup> Happy Hayati Helmi, 'Reformasi Hukum Pertanahan: Pengaturan Komersialisasi Ruang Tanah', *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional*, 8.3 (2019), 381 <<https://doi.org/10.33331/rechtsvinding.v8i3.354>>.

<sup>3</sup> T. Firman, 'Major Issues in Indonesia's Urban Land Development', *Land Use Policy*, 21.4 (2004), 347–55 <<https://doi.org/10.1016/j.landusepol.2003.04.002>>.

<sup>4</sup> Pertiwi Liliyani, Tanjung Nugroho, and Dwi Wulan Titik Andari, 'Inventarisasi Penguasaan, Pemilikan, Penggunaan Dan Pemanfaatan Tanah (IP4T) Partisipatif Di Kabupaten Madiun', *Tunas Agraria*, 3.2 (2020), 157–76 <<https://doi.org/10.31292/jta.v3i2.114>>.

equality in the management, ownership, use, and maintenance of agricultural and natural resources to ensure fairness and justice. 7. Ensuring sustainability to attain optimal benefits for present and future generations, taking into account the environment and its capability to support life. The goal is to integrate social, sustainable, and ecological elements by the unique socio-cultural attributes of the local setting. An area with potential for improvement is the facilitation of integration and coordination among different development sectors and regions in the implementation of agrarian resource reform and management. 10. It is crucial to recognize, maintain, and protect the rights of traditional law communities and the country's cultural beliefs regarding agricultural and natural resources. 11. It is crucial to strive for a balanced and harmonious relationship between the rights and obligations of the state, government entities (at the national, provincial, district/city, and village or equivalent levels), communities, and individuals. 12. The implementation of decentralization measures should entail the dispersion of power among different levels, specifically national, provincial, district/city, and village or similar, in terms of assigning and managing agrarian and natural resources.<sup>5</sup>

A comprehensive policy framework for agrarian reform is essential due to its significant impact on various individuals. The framework must include essential components, such as a thorough examination of existing laws and regulations about agricultural matters, to ensure uniformity and harmony across all sectors. 2. Implementing a fair redistribution of land rights, ownership, usage, and exploitation, with a particular emphasis on making sure that land ownership opportunities are available to the wider community. 3. Facilitating the systematic and comprehensive collection of land information through inventory and registration procedures is essential for the effective implementation of land reform initiatives. 4. Resolving conflicts arising from agricultural resources and accurately forecasting potential problems. 5. Enhancing the capacity and effectiveness of land institutions to facilitate their resilient functioning. To successfully address conflicts about agricultural resources and proactively prevent future conflicts, it is imperative to strengthen the capabilities and jurisdiction of organizations entrusted with implementing agrarian reform. 6. Additionally, it is crucial to actively pursue financial resources to efficiently implement the agrarian reform program.

The aforementioned rules pertain to the legal aspects of agrarian reform, which have been regarded as national goals since the inception of independence. Furthermore, these regulations set the legal foundation for the government's obligation to execute activities about the Inventory of Land Tenure, Ownership, Use, and Utilisation (referred to as IP4T). The Inventory of Tenure, Ownership, Use, and Utilisation of Land (IP4T) is a compulsory requirement outlined in TAP MPR IX/2001, which pertains to Agrarian Reform and Natural Resource Management. Article 6, Paragraph 1(c) of this rule emphasizes the significance of conducting a comprehensive and systematic evaluation and recording of

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<sup>5</sup> See Article 5 of the Decree of the People's Consultative Assembly on Agrarian Reform and Natural Resource Management Number IX of 2001.

land tenure, ownership, usage, and utilization. The purpose of this inventory is to gather land data to formulate the Policy Direction of Agrarian Reform and facilitate the implementation of land reform.<sup>6</sup> In addition, the integration of IP4T operations within the National Priority Programmes has been executed to offer assistance for agrarian transformation. To accomplish this goal, it is essential to guarantee the effective execution of IP4T activities. The IP4T operations play a vital role in achieving Goal V, as stated in the Nawa Cita Vision and Mission of the Jokowi-JK Government. This objective involves the effective execution of a thorough agricultural reform program including a total land area of 9 million hectares, with a primary focus on providing substantial benefits to peasants and farm laborers.<sup>7</sup>

The Land Structuring Division/Section is tasked with executing the IP4T operations throughout several locations. The IP4T activity entails doing a comprehensive assessment of P4T within a specific community, employing a participatory mapping technique.<sup>8</sup> Participatory mapping in this context denotes a mapping endeavour wherein the community actively engages in gathering data for IP4T.<sup>9</sup> The results of IP4T efforts include essential information for strategic land planning and the formulation of technology strategies. Below are many precise definitions of IP4T activities, aimed at improving comprehension and application: 1. Government Regulation No. 24/1997 defines a land parcel as a specific and limited area of the Earth's surface. 2. Land tenure, as stated in Law No. 5 of 1960 (GR No. 16 of 2004), refers to the legal connection between an individual, a group of individuals, or a legal entity and a piece of land. Land ownership pertains to the legal relationship between individuals, groups, or legal entities who possess proof of ownership, such as registered land rights certificates or unregistered papers. Land use pertains to the use and occupation of the Earth's surface, including both naturally existing and human-made formations, as defined by Government Regulation No. 16/2004. 5. Land utilization pertains to maximizing the value derived from land use while keeping its physical form unchanged, as specified in Government Regulation 16/2004; 6. The Land Parcel Sketch is a visual depiction of land parcels in the field, often illustrating

<sup>6</sup> Sukirno Sukirno, 'Tindak Lanjut Pengakuan Hutan Adat Setelah Putusan Mahkamah Konstitusi No.35/Puu-X/2012', *Masalah-Masalah Hukum*, 45.4 (2016), 259 <<https://doi.org/10.14710/mmh.45.4.2016.259-267>>.

<sup>7</sup> Muchammad Chanif Chamdani, 'Penyelesaian Penguasaan Tanah Di Dalam Kawasan Hutan Pasca Pengaturan Undang-Undang Cipta Kerja', *Jurnal Hukum Lingkungan Indonesia*, 7.2 (2021), 221–53 <<https://jhli.icel.or.id/index.php/jhli/article/view/292>>.

<sup>8</sup> I Putu Agus Swastika, I Made Agus Ana Widiatmika, and Putu Eka Wiadi, 'Rancang Bangun Sistem Informasi Geografis Penguasaan Pemilikan Penggunaan Dan Pemanfaatan Tanah ( P4T ) Kabupaten Jembrana Berbasis Web', *Lontar Komputer*, 1.1 (2010), 4–16.

<sup>9</sup> Husen Alting, 'Penguasaan Tanah Masyarakat Hukum Adat (Suatu Kajian Terhadap Masyarakat Hukum Adat Ternate)', *Jurnal Dinamika Hukum*, 11.1 (2011) <<https://doi.org/10.20884/1.jdh.2011.11.1.75>>.

their approximate boundaries. It offers a minimum geographical reference of 1 TDT.<sup>10</sup>

The execution of IP4T activities involves the use of an Android-based application called Smart PTSL. Smart PTSL is a mobile Geographic Information System (GIS) application specifically designed for Android smartphones. It offers a range of tailored features to meet the requirements of IP4T and PTSL.<sup>11</sup> The Smart PTSL program functions as a platform for distributing measurement data obtained from diverse sources, including surveying instruments, aerial photo interpretation, and external GNSS connections. It should be emphasized that the application does not operate as a measurement instrument. The Smart PTSL program includes a range of capabilities, such as the adjustment of distance in demarcation data acquired from satellite photographs, UAVs, and drone photos. The merging of physical and legal data: The study contains diverse forms of corroborating data, including a Base Map acquired by UAV/Drone and CSRT technologies. In addition, shapefiles (\*.shp) are used to produce a functional map by utilizing spatial data of land parcels. The textual information regarding land parcels encompasses details such as topic, object, control, ownership, legal relationship, list of entries, and statement letter of physical control. In addition, external Global Navigation Satellite System (GNSS) data and geotagged photographs of subjects and objects are integrated. Ultimately, the study entails the process of exporting photos and maps of measurements as shapefiles.<sup>12</sup>

The above explanation implies that the integration of IP4T (Indigenous Peoples' Rights to Territory) into the national agrarian law framework is primarily grounded on the regulations outlined in TAP MPR IX/2001 on Agrarian Reform and Natural Resource Management. This legislation comprises nine articles, with Article 6 principally addressing the regulation of IP4T. The pertinent regulation can be found in Article 22, in conjunction with Article 23, of Government Regulation No. 16/2004 on Land Administration. The ongoing inquiry focuses on the extent of inclusivity in the regulation of IP4T within TAP MPR IX/2001 on Agrarian Reform and Natural Resource Management, particularly when analyzed from the standpoint of ecological justice. Moreover, it raises the question of whether the establishment of TAP MPR IX/2001 on Agrarian Reform and Natural Resource Management has been founded on principles of ecological justice.<sup>13</sup>

<sup>10</sup> Muh Arif Suhattanto and others, 'Kualitas Data Pertanahan Menuju Pelayanan Sertifikat Tanah Elektronik', *Widya Bhumi*, 1.2 (2021), 100–114 <<https://doi.org/10.31292/wb.v1i2.11>>.

<sup>11</sup> Widhi Handoko, 'Analisis Pengembangan Kebijakan Dan Manajemen Pertanahan BPN/Kementerian Agraria RI', *Recital Review*, 1.38 (2019), 23–43.

<sup>12</sup> Wahyu Nugroho, 'Persoalan Hukum Penyelesaian Hak Atas Tanah Dan Lingkungan Berdasarkan Perubahan Undang-Undang Minerba', *Jurnal Hukum Ius Quia Iustum*, 27.3 (2020), 568–91 <<https://doi.org/10.20885/iustum.vol27.iss3.art7>>.

<sup>13</sup> Felishella Earlene and Benny Djaja, 'Implikasi Kebijakan Reforma Agraria Terhadap Ketidaksetaraan Kepemilikan Tanah Melalui Lensa Hak Asasi Manusia', *Tunas Agraria*, 6.2 (2023), 152–70 <<https://doi.org/10.31292/jta.v6i2.223>>.



The research suggests that there are issues with the implementation of IP4T that neglect ecological sustainability, particularly regarding mining licensing. The condition observed in Kalimantan Island, renowned for its mining activities and the issuance of mining concession permits on smaller islands gives rise to apprehensions regarding the long-term ecological viability. The cumulative land area granted for mining licenses, excluding plantations, was 228,556.25 hectares as of 2007. This figure is solely based on the data collected specifically for the mining industry. Simultaneously, the total extent of mining excavations expanded to 8,810.22 hectares, whilst the reclaimed area encompassed 6,239.57 hectares. However, it is crucial to recognize that the environmental conditions in South Kalimantan have seen a substantial deterioration in terms of ecological quality.

According to the research conducted by Puspitasari S, South Kalimantan (Kalsel) is placed 26th out of the 28 provinces in Indonesia, making it the third lowest-ranked province. The assessment focuses on the water quality of various constituents, such as dissolved oxygen (DO), total suspended solids (TSS), and chemical oxygen demand (COD). These measures in South Kalimantan fail to meet the legal standards for water quality. Furthermore, it is clear that the air quality indicators, specifically the levels of SO<sub>2</sub> and NO<sub>2</sub>, fail to fulfill the specified air pollution standard index. Furthermore, the forested region has a substantial amount of land coverage due to previous excavations. The water quality is awarded a total value of 8.40, whilst the evaluation for air quality is 97.11. The land cover also attained a numerical value of 39.24.<sup>14</sup>

Mining licenses exacerbate the detrimental ecological ramifications linked to mining activities. PT BCS engages in mining operations on Sebuk Island, led by Puspitasari S, resulting in an annual production of 3,000,000 tonnes of coal. This coal is readily accessible for both domestic use and foreign commerce. The BCS Profile (2005) identifies Japan, India, Thailand, the Philippines, China, and Malaysia as the primary nations of interest in migration. The acquisition of the exploitation license for BCS took place in 1993 through a second-generation Contract of Work (CCoW). During that particular timeframe, there was a significant increase in the adoption of Coal Contracts of Work (CCoW) by mining companies. The increase was made possible by the implementation of Generation II Coal Contracts, as mandated in Presidential Decree No. 21/1993. The decree encompassed the following five companies: PT BCS, Bantala CM, Antang Gunung Meratus, Jorong Barutama, and Borneo Indobara. The BCS company began its operations on Sebuk Island in 1997, commencing exploration activities according to the established operational strategy. PT BCS is a government-owned firm engaged in the mining industry, with operational supervision provided by Straits Resources Limited. In this scenario, the distribution of shares is determined by Indonesia holding 20% ownership, while Singapore holds the remaining 80%. It is worth mentioning that in the Mining industry,

<sup>14</sup> Dewi Dwi Puspitasari S. *Pengembangan Kebijakan Agraria untuk Keadilan Sosial, Kesejahteraan Masyarakat, dan Keberlanjutan Ekologis*. Yogyakarta: STPN Press, 2011. pp 118

12 out of the 19 companies operating in South Kalimantan are owned by foreign organizations, while the other seven companies are domestically controlled (PMDN).

In 2004, the forestry minister granted permission for PT BCS to utilize forest land. This approval was conveyed by a letter bearing the reference number S.430/Menhut-VII/2004, dated 15 October 2004. Furthermore, a further Decree No.316/Menhut/II/2009 was enacted in 2009 about the utilization of 744.68 hectares of forest land by borrowing. PT SILO conducted iron ore extraction on Sebuk Island throughout the specified time frame, under the authority of a permit letter known as S. 709/Menhut-VII/2006 and Decree No. 399/Menhut-II/2008. This message is to notify you that licenses have been granted for borrowing-to-use in permanent production forest areas and convertible production forest areas. Nevertheless, PT SILO commenced the exploitation of the deposit in 2004, resulting in a production output of 2.5 million metric tonnes. This output was conducted within a specified area of 1,731.61 hectares, where borrowing for utilization was allowed. Through thorough consultations with residents and a comprehensive analysis of available data, it has been determined that the converted forest area fulfills various roles, such as generating forest resources, safeguarding forested areas, and preserving natural habitats.

Ecological justice is an emerging topic within the discipline of law, namely in the areas of environmental law and administrative law. This notion posits that justice should extend beyond human people as legal entities and encompass the natural environment as well. Ecological justice challenges the prevailing belief in human superiority over nature and the inclination to exert dominance over it. This concept is the essential foundation of interspecies justice, which is a vital component of environmental ethics.<sup>15</sup> This academic study, presented as a qualifying paper, aims to examine the concept of ecological justice within the framework of the IP4T setup. This analysis will comprehensively explore several aspects of ecological justice, irrespective of its execution, grounded in multiple empirical data. It is crucial to note that numerous assertions regarding ecological justice necessitate further scrutiny. This study aims to investigate the incorporation of ecological justice into the IP4T framework in Indonesia, using the contextual information provided on the aforementioned subjects.

## 2. Research Method

The present study is a type of normative legal research that specifically focuses on analyzing "positive legal norms within the legislative system." This study has verified that the methodology employed in this legal research comprises both a statutory approach and a

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<sup>15</sup> Chukwumerije Okereke and Mark Charlesworth, *Environmental and Ecological Justice, Advances in International Environmental Politics*, 2014 <<https://doi.org/10.1057/9781137338976>>.

conceptual approach.<sup>16</sup> The research methodology employed in this study involves the utilization of document analysis as the major method for gathering data.<sup>17</sup> Document analysis is a method of research that involves gathering secondary data from various scholarly sources, such as legal statutes, regulations, international treaties, books, academic journals, articles, reports authored by previous researchers, and other pertinent documents about the subject under investigation.

### 3. Results and Discussion

#### Ecological Justice on MPR Decree IX/MPR/2001: Agrarian Reform and Natural Resource Management

From a normative standpoint, the regulation and utilization of agricultural resources should align with a legal framework, specifically the legal system that governs their control and management. The enactment of the Basic Agrarian Law establishes the legislative foundation for the management and utilization of agrarian resources. Law No. 5/1960, known as "The Fundamental Regulation of Agrarian Principles," has been enacted to set the primary regulations governing the management and use of agrarian resources. These resources encompass the tangible components of the environment, such as land, water, and space, together with the inherent natural resources contained within them, such as forests, mines, and biological resources.<sup>18</sup>

However, the prevailing agricultural policies, characterized by a mentality of exploitation, have led to the implementation of multiple industry-specific laws during the New Order era. These laws have traditionally operated independently and formed their legal frameworks. Illustrations of such legislation include Law No. 5 of 1967, which was subsequently substituted by Law No. 41 of 1999 in the field of forestry. Law No. 11 of 1967, governing the mining industry, has been replaced by Law No. 4 of 2009 with Mineral and Coal Mining, as well as Law No. 22 of 2001 regarding Oil and Natural Gas. Water resource management is governed by Law No. 7 of 2004, while Law No. 18 of 2007 is responsible for regulating plantations. Coastal areas and tiny islands are bound by the limitations imposed by Law No. 27 of 2007. Given the current emphasis on utilizing resources in these industry-specific laws and regulations, it is justifiable to claim that the equilibrium, formerly upheld in the UUPA, has now been disturbed. Economic interests have taken precedence over other factors, such as ecological issues and human rights. The formal acknowledgment of this discrepancy or absence of consensus can be located in MPR Decree No. IX/MPR/2001, which especially pertains to Agrarian Reform and Natural Resource Management. Vertical disharmony or

<sup>16</sup> Pujiyono Suwadi and others, 'Legal Comparison of the Use of Telemedicine between Indonesia and the United States', *International Journal of Human Rights in Healthcare*, ahead-of-p.ahead-of-print (2022) <<https://doi.org/10.1108/IJHRH-04-2022-0032>>.

<sup>17</sup> Tara Nadya Andiani, FX Hastowo Broto Laksito, and Jose Gama Santos, 'Evidence from Indonesia on the Legal Policy Confronting Discrimination of Minority Groups Based on Race and Ethnicity', *Wacana Hukum*, 29.2 (2023), 146–62 <<https://doi.org/10.33061/wh.v29i2.9808>>.

<sup>18</sup> Nurhasan Ismail and others, 'Penjabaran Asas-Asas Pembaharuan Agraria Berdasarkan Tap Mpr No Ix / Mpr / 2001 Dalam Perundang-Undangan Di Bidang Pertanahan', *Mimbar Hukum*, 22.2 (2010), 360–72.



inconsistency often arises in the land sector when there is a lack of a well-established rule of law. The TAP MPR No.IX/ MPR/2001 outlines particular fundamental concepts that must serve as the foundation for the formulation of land legislation regulations. Hence, the laws and legislation about the land sector must provide a thorough explanation of the legal concepts outlined in the MPR Decree. Each standard in land regulation must be linked to one of the legal principles outlined in the MPR Decree. The MPR Decree No. IX/MPR/2001 encompasses the following principles:

#### **a. Social and ecological functionality**

The social and ecological purposes of land rights encompass the administration of land in a manner that fosters a harmonious correlation between the concerns of individual landowners and society, while simultaneously upholding an equilibrium between land productivity and preservation objectives.<sup>19</sup> According to the definition described before, it comprises three distinct components or elements. The definition highlights the significance of land rights about their social and ecological roles, with a specific emphasis on how land use can yield economic, social, and ecological benefits. Moreover, it underscores the importance of attaining a balanced and mutually beneficial state between the interests of individual landowners and the well-being of the society. This is considered a fundamental objective in any endeavor that involves the utilization of property rights. Moreover, it is crucial to maintain a careful balance between striving for optimal production outcomes and preserving land resources.<sup>20</sup>

#### **b. Integration and Coordination Principle**

These two concepts pertain to the efficiency of authoritative institutions in the field of land management and the consequences of their activities. In the context of policy, law, and regulation, "integration" refers to the process of merging or harmonizing the core principles and content of policies, laws, and regulations. The rationale for this consolidation is imperative to establish a standardized and equitable approach to assessing the logic behind integration and the substance of these policies, rules, and regulations. Coordination is a procedural aspect that governs the functioning of institutions. It entails the synchronization, integration, or congruence of perspectives or ideas. Hence, the coordination process is executed by engaging several institutions, wherein their distinct functions and authorities are interconnected.<sup>21</sup>

The explanation above elucidates that integration and coordination are grounded in fundamental parts, which are the factual components responsible for their existence. The term "integration" encompasses a variety of factual events or phenomena. Firstly, it involves

<sup>19</sup> King Faisal Sulaiman, 'Polemik Fungsi Sosial Tanah Dan Hak Menguasai Negara Pasca UU Nomor 12 Tahun 2012 Dan Putusan Mahkamah Konstitusi Nomor 50/PUU-X/2012', *Jurnal Konstitusi*, 18.1 (2021), 091–111 <<https://doi.org/10.31078/jk1815>>.

<sup>20</sup> Benhard Limbong, *Pengadaan Tanah Untuk Pembangunan Regulasi Kompensasi Penegakan Hukum*, Margaretha Pustaka, Jakarta, 2011, hlm 130

<sup>21</sup> A. Joni Minulyo, 'Asas-Asas Hukum Pembaharuan Agraria', *Jurnal Hukum Pro Justitia*, 25.4 (2007), 313.

engaging in collective reasoning while working together with various interconnected fields of study. Furthermore, it entails the presence of a shared substance or essence that aligns with other interconnected domains. The regulations or principles regulating connected fields must exhibit substantial and conceptual similarities. Furthermore, a shared interest serves as the guiding principle. Integration is commonly associated with the establishment of a system in which a certain area of concentration is the objective.<sup>22</sup>

### c. Balance rights and obligations.

According to Article 5 Letter K of MPR Decree IX/MPR/2001, the principles of agricultural reform seek to establish a fair and cooperative connection among different entities, including the State, and government bodies at various levels (central, provincial, district/city, and village or equivalent), communities, and individuals. This is done by taking into account their respective rights and responsibilities. This principle revolves around a fundamental concept, namely the equilibrium between entitlements and responsibilities. This equilibrium pertains to the equilibrium between the obligations and duties of the State towards its inhabitants, as well as the rights and obligations of each individual as a constituent of the community towards the State.<sup>23</sup> The rights and obligations are typically delineated in several legally enforceable instruments within the pertinent jurisdiction. It is paramount to establish a state of equilibrium and agreement between persons' rights and their associated obligations. Jeremy Bentham, the British philosopher, argued that the primary objective of law and government is the achievement of happiness. The principle encompasses the elements of Rights and Obligations<sup>24</sup>

### d. Justice and Gender Equality Principles

Moreover, as mentioned in Article 5, letter f of MPR Tap IX/ MPR/2001, the goals of agricultural reform encompass the guarantee of fairness, which includes gender parity, about the management, possession, utilization, exploitation, and preservation of agrarian and natural resources. The UUPA embraces the principle articulated in Article 9 (paragraph 2), which asserts that all Indonesian citizens, regardless of their gender, are entitled to equal opportunity in acquiring land rights. This privilege is intended to facilitate personal and familial benefits and outcomes.<sup>25</sup>

<sup>22</sup> M Zaid and others, 'Eradicating Public Official Corruption Indonesia : A Revolutionary Paradigm Focusing on State Financial Losses', *Wacana Hukum*, 29.2 (2023), 87–111 <<https://doi.org/10.33061/wh.v29i2.9564>>.

<sup>23</sup> Triana Rejekiingsih, 'Asas Fungsi Sosial Hak Atas Tanah Pada Negara Hukum (Suatu Tinjauan Dari Teori, Yuridis Dan Penerapannya Di Indonesia)', *Yustisia Jurnal Hukum*, 5.2 (2016), 298–325.

<sup>24</sup> Muhammad Asrul and Shilla Hasmara, 'Explaining Legal Implications : Ownership Analysis Of Intellectual Property Rights On Cryptokitties Platforms', *Wacana Hukum*, 29.1 (2023), 1–13.

<sup>25</sup> Layyin Mahfiana, 'Konsepsi Kepemilikan Dan Pemanfaatan Hak Atas Tanah Harta Bersama Antara Suami Istri', *BUANA GENDER : Jurnal Studi Gender Dan Anak*, 1.1 (2016), 29–44 <<https://doi.org/10.22515/bg.v1i1.65>>.

### e. Decentralisation Principle

Decentralization refers to shifting operational responsibilities to local governments, while decentralization involves assigning or transferring decision-making powers to lower levels of government. Decentralization is delegating power and influence to regional and local communities. The characteristics or indicators of decentralization consist of two essential elements. Decentralization entails distributing power and authority to several regions rather than individuals. Moreover, it delegates governmental authority and decision-making procedures to local or regional authorities. Moreover, decentralizing government matters the delegation of power and accountability from central governing organizations to local government entities.<sup>26</sup>

### f. Principle of Sustainability

As to Article 3 of Law Number 23 of 1997 on Environmental Management, sustainability refers to the concept that individuals must care for the well-being of future generations and current contemporaries. The notion of sustainability encompasses several crucial elements. Economic welfare is an essential element, as the ultimate objective of any development is to achieve economic success. Furthermore, effective human resource management is crucial as it facilitates fulfilling individuals' needs. Ultimately, preserving and rejuvenating the environment is essential, as pursuing economic and social prosperity must accompany a responsible environmental approach. Ensuring equitable access and efficient resource use for future generations is paramount.<sup>27</sup>

### g. Participation principle.

Participation involves the active engagement of the community in all aspects of creating, implementing, overseeing, and/or managing a legal system. In this particular instance, the study will solely examine the implementation, supervision, and/or monitoring mechanisms of the laws outlined in a legislative framework, given its prescriptive nature. This phenomenon can be elucidated by its correlation with the essential tenets of democracy, wherein governance is drawn from and executed by the collective populace, with the ultimate objective of catering to their interests. According to the provided description, only a single component or piece is present. Specifically, it pertains to a governing principle that addresses the entitlements of persons within a society to execute, oversee, and govern a particular undertaking associated with property.<sup>28</sup>

<sup>26</sup> Ilyas Ismail and others, 'Desentralisasi Kewenangan Bidang Pertanahan Berdasarkan Undang-Undang Nomor 11 Tahun 2006', *Media Hukum*, 17.1 (2010), 45–56.

<sup>27</sup> R.E. Widowati, D.Y., Yurista, A.P., Rafael Edy Bosko, 'Hak Penguasaan Atas Sumber Daya Alam Dalam Konsepsi Dan Penjabarannya Dalam Peraturan Perundang-Undangan', *Journal LEGISLASI INDONESIA*, 16.2 (2019), 147–59.

<sup>28</sup> Liliyani, Nugroho, and Titik Andari.

## **h. Pluralism in Legal Unification**

The principle is comprised of three core tenets: Firstly, guaranteeing and protecting the sovereignty of the Republic of Indonesia; Secondly, upholding the rule of law by incorporating various legal systems; and Thirdly, acknowledging and honoring the rights of indigenous communities and the nation's cultural diversity to access natural resources.<sup>29</sup>

## **i. Principle of Transparency**

Regarding understanding Article 2 of Government Regulation No. 24/1997, transparency or openness involves granting public access to land registration data. Access to the Land Office is made more accessible by a comprehensive register, which does not include name registrations. The definition provided above has two separate components or pieces. Firstly, it involves the public's capacity to obtain data on land rights from government offices, notably the Land Office. Furthermore, it includes the public's ability to acquire information about government policy concerning land rights.<sup>30</sup>

## **Indonesian Government Regulation No. 16 of 2004 on Land Stewardship Implementing Ecological Justice**

The legislation about IP4T can be located in Article 22, Paragraph (1), in conjunction with Article 23 of the Government legislation of the Republic of Indonesia No. 16 of 2004 on Land Stewardship (GR No. 16 of 2004). These articles specifically address the government's execution of IP4T. According to Article 22 of Government Regulation No. 16/2004, forming land stewardship, as indicated in Article 23, necessitates executing various measures. a. The task involves conducting an inventory of land ownership, usage, and exploitation. b. Regarding regional functions, it is crucial to achieve an equilibrium between the accessibility and requirements of land ownership, usage, and utilization. The objective is to ascertain the configuration of land ownership, utilization, and modifications through the Regional Spatial Plan.

Article 23 of Government Regulation No. 16 Year 2004 explicitly states that the implementation of IP4T is confirmed. This provision clearly states that the implementation of the inventory of land tenure, usage, and utilization, as mentioned in Article 22 paragraph (1) letter a, includes: a. Gathering and analyzing data on land tenure, usage, and utilization, as well as land capability, evaluation, and related data. b. The display of data using maps and information about land ownership, usage, and exploitation, as well as land potential, assessment, and accompanying data. c. Data services include maps and information regarding land tenure, usage, utilization, land capability, evaluation, and supporting data. 2. as mentioned in paragraph (1) letter b, data and information related to the land sector are

<sup>29</sup> Muhammad Bakri, 'Unifikasi Dalam Pluralisme Hukum Tanah Di Indonesia (Rekonstruksi Konsep Unifikasi Dalam Uupa)', *Kertha Patrika*, 33.1 (2008), 1–5 <<https://doi.org/10.24843/kp.2008.v33.i01.p07>>.

<sup>30</sup> Deselfia D.N.M. Sahari, 'ESENSI TRANSPARANSI DAN AKUNTABILITAS DALAM PENDAFTARAN TANAH DALAM SISTEM HUKUM INDONESIA', *Al-Ishlah: Jurnal Ilmiah Hukum*, 20.1 (2018), 37–39 <<https://doi.org/10.30595/techno.v18i1.1482>>.

crucial for developing and modifying the Regional Spatial Plan. 3. Activities focused on evaluating the balance between the accessibility and demands of control, utilization, and utilization of land according to the designated purpose of the region as specified in Article 22, paragraph (1), letter b, include the following: a. Illustration of the balance between changes in the use and allocation of land in the Regional Spatial Plan; b. Illustration of the balance between suitability and allocation of land in the Regional Spatial Plan; c. Illustration and establishment of priorities for land availability in the Regional Spatial Plan.

Referring to the legal provisions stated in Article 22 and Article 23 of Government Regulation No. 16 of 2004, it is clear that the IP4T outcomes, which include maps and information on land ownership, usage and exploitation, land capacity, land assessment, and supplementary data, are essential for conducting research in the development of a Regional Spatial Plan in a specific area. Hence, the official IP4T findings ensure that a region's Regional Spatial Plan continuously follows sustainable environmental standards.

### **Ecological Justice in Indonesian Land Inventory, Tenure, Ownership, Use, and Utilisation Regulation**

In the introduction of the text, the author states that the regulation of IP4T under national land legislation is controlled by TAP MPR IX/2001 along with Government Regulation Number 16 of 2004 on Land Administration. Through conceptual analysis, it is evident that both legal products have integrated environmental and ecological justice aspects. These legal systems encompass several pieces of legislation. Article 3 of TAP MPR IX/2001 specifies that utilizing natural resources in land, sea, and space should be done efficiently, proportionally, sustainably, and ecologically conscious.

The regulation above is in Article 5, under letter g of TAP MPR IX/2001. The requirement dictates that agrarian reform and natural resource management adhere rigorously to sustainability principles. This guarantees that the measures implemented will yield substantial benefits for current and future generations while also considering environmental concerns and the ecosystem's capacity. The principle of ecological justice in TAP MPR IX/2001 is reflected in Article 6 Paragraph (2) letter c. This provision emphasizes the importance of enhancing public access to information regarding the potential of natural resources in a given area. Additionally, it promotes the adoption of environmentally sustainable technologies, including traditional methods, to encourage social responsibility in natural resource management.

What is quite fundamental in TAP MPR IX/2001, which discusses aspects of ecological justice, can also be found in the preamble of TAP MPR IX/2001, which states that:

Letter e: that fair, sustainable, and environmentally friendly management of agrarian and natural resources must be carried out in a coordinated, integrated manner that accommodates the dynamics, aspirations, and participation of the community and resolves conflicts;

Letter f: In order to realize the noble ideals of the Indonesian nation as set out in the



preamble of the 1945 Constitution, a serious political commitment is needed to provide the basis and direction for agrarian reform and natural resource management that is just, sustainable and environmentally friendly;

From the viewpoint of I Gusti Ayu Ketut Rachmi Handayani, it is contended that ecological justice and sustainability are intrinsically linked and cannot be separated from the welfare of present and future generations. Sustainable development also includes pursuing equitable and unbiased justice for present and future generations.<sup>31</sup> Therefore, the TAP MPR IX/2001 includes a framework for ecological justice in its regulatory rules, where the environment and sustainability are recognized as essential elements within the legal framework.

W. Pedersen's approach identifies three critical parts of Ecological justice: the precautionary and preventative principles, the polluter pays principle, and the sustainable development premise. Therefore, as stated by Pedersen, the regulations specified in TAP MPR IX/2001 have effectively dealt with two crucial concerns. First and foremost, their objective is to deter the unethical and unsustainable exploitation of the environment. Furthermore, they tackle the issue of exploitation within the framework of sustainable development, emphasizing the significance of conscientious behaviors and cultivating a strong sense of ethical obligation throughout the exploitation process.<sup>32</sup>

Government Regulation No. 16 of 2004 on Land Administration is the secondary legal basis for supporting the IP4T structure. The precise particulars of the IP4T agreement are explicitly outlined in Article 22, in conjunction with Article 23 of this Government Regulation. Article 23 of Government Regulation No. 16 of 2004 states explicitly the enforcement of IP4T. The document provides the subsequent information: (1) The implementation of the inventory of land ownership, usage, and exploitation, as specified in Article 22 paragraph (1) letter a, includes the following actions: a. Collecting and evaluating data regarding land ownership, utilization, and efficiency, as well as land potential, assessment, and associated data; b. Presenting maps and information concerning land ownership, utilization, efficiency, potential, assessment, and associated data; c. Supplying and distributing data in maps and information regarding land ownership, utilization, efficiency, potential, assessment, and associated data. According to paragraph (1) letter b, including land sector data and information to develop and modify the Regional Spatial Plan is essential.

As per Article 23 of Government Law No. 16/2004, the IP4T legislation mandates the inclusion of the IP4T map in all Spatial and Regional Plans. This map encompasses more information than property title, utilization, and use. In addition, the IP4T dataset comprises assessments of land suitability and capacity, encompassing the biological characteristics associated with the area. Hence, the Spatial and Regional Plan for a particular region must

<sup>31</sup> Muhamad Khalif Ardi and others, 'The Imperative Is to Restrict Customary Criminal Offenses after Implementing Indonesia ' s New Criminal Code', *Wacana Hukum*, 29.2 (2023), 130–45 <<https://doi.org/10.33061/wh.v29i2.9829>>.

<sup>32</sup> Rian Saputra, Josef Purwadi Setiodjati, and Jaco Barkhuizen, 'Under-Legislation in Electronic Trials and Renewing Criminal Law Enforcement in Indonesia (Comparison with United States)', *JOURNAL of INDONESIAN LEGAL STUDIES*, 8.1 (2023), 243–88 <<https://doi.org/10.15294/jils.v8i1.67632>>.

consider the comprehensive dataset provided by IP4T. This dataset comprises crucial information regarding land ownership, utilization, and potential. Baxter contends that the rationales behind ecological justice and the need to combat ecological extinction should compel individuals to consider the potential presence of a philosophical framework that could validate these ethical concerns. This perspective seeks to offer a comprehensive moral philosophy that extends beyond only imposing limitations on ethical considerations and variables relevant exclusively to specific categories within the realm of organic existence. An imperative objective of ecological justice theory should be to actively contribute to preventing severe extinctions.<sup>33</sup>

#### 4. Conclusion

The author's investigation indicates that ecological justice is included in the IP4T system as described in TAP MPR IX/2001 and Government Regulation Number 16 of 2004, which explicitly governs land administration. The regulations of the two legal instruments promote environmental fairness, long-lasting advancement, and harm reduction. Article 23 of Government Regulation No. 16/2004 stipulates that Spatial and Regional Plans are required to include the IP4T map. This map surpasses the limitations of land ownership and utilization. In addition, the IP4T dataset assesses land capacity and evaluation, considering ecological aspects. Hence, a region's Spatial and Regional Plan must refrain from incorporating IP4T data about land ownership, utilization, usage, assessment, and capacity. The concept of ecological justice is explained in Articles 3, 5, and 6, Paragraph (2) of TAP MPR IX/2001. These discrepancies impede the attainment of ecological equity in practical terms. The utilization of IP4T in mining is prone to encountering these challenges.

#### 5. References

- A. Joni Minulyo, 'Asas-Asas Hukum Pembaharuan Agraria', *Jurnal Hukum Pro Justitia*, 25.4 (2007), 313
- Alting, Husen, 'Penguasaan Tanah Masyarakat Hukum Adat (Suatu Kajian Terhadap Masyarakat Hukum Adat Ternate)', *Jurnal Dinamika Hukum*, 11.1 (2011) <<https://doi.org/10.20884/1.jdh.2011.11.1.75>>
- Andiani, Tara Nadya, FX Hastowo Broto Laksito, and Jose Gama Santos, 'Evidence from Indonesia on the Legal Policy Confronting Discrimination of Minority Groups Based on Race and Ethnicity', *Wacana Hukum*, 29.2 (2023), 146–62 <<https://doi.org/10.33061/wh.v29i2.9808>>
- Ardi, Muhamad Khalif, Muhammad Ikhsan Kamil, Devi Triasari, and Doris Rahmat, 'The Imperative Is to Restrict Customary Criminal Offenses after Implementing Indonesia 's New Criminal Code', *Wacana Hukum*, 29.2 (2023), 130–45

<sup>33</sup> Dimitris Stevis, 'Whose Ecological Justice?', *Strategies: Journal of Theory, Culture & Politics*, 13.1 (2000), 63–76 <<https://doi.org/10.1080/10402130050007520>>.

<<https://doi.org/10.33061/wh.v29i2.9829>>

- Asrul, Muhammad, and Shilla Hasmara, 'Explaining Legal Implications : Ownership Analysis Of Intellectual Property Rights On Cryptokitties Platforms', *Wacana Hukum*, 29.1 (2023), 1–13
- Bakri, Muhammad, 'Unifikasi Dalam Pluralisme Hukum Tanah Di Indonesia (Rekonstruksi Konsep Unifikasi Dalam Uupa)', *Kertha Patrika*, 33.1 (2008), 1–5 <<https://doi.org/10.24843/kp.2008.v33.i01.p07>>
- Chamdani, Muchammad Chanif, 'Penyelesaian Penguasaan Tanah Di Dalam Kawasan Hutan Pasca Pengaturan Undang-Undang Cipta Kerja', *Jurnal Hukum Lingkungan Indonesia*, 7.2 (2021), 221–53 <<https://jhli.icel.or.id/index.php/jhli/article/view/292>>
- Earlene, Felishella, and Benny Djaja, 'Implikasi Kebijakan Reforma Agraria Terhadap Ketidaksetaraan Kepemilikan Tanah Melalui Lensa Hak Asasi Manusia', *Tunas Agraria*, 6.2 (2023), 152–70 <<https://doi.org/10.31292/jta.v6i2.223>>
- Firman, T., 'Major Issues in Indonesia's Urban Land Development', *Land Use Policy*, 21.4 (2004), 347–55 <<https://doi.org/10.1016/j.landusepol.2003.04.002>>
- Ginting, Darwin, 'Reformasi Hukum Tanah Dalam Rangka Perlindungan Hak Atas Tanah Perorangan Dan Penanam Modal Dalam Bidang Agrobisnis', *Jurnal Hukum Ius Quia Iustum*, 18.1 (2011), 63–82 <<https://doi.org/10.20885/iustum.vol18.iss1.art4>>
- Handoko, Widhi, 'Analisis Pengembangan Kebijakan Dan Manajemen Pertanahan BPN/Kementerian Agraria RI', *Recital Review*, 1.38 (2019), 23–43
- Helmi, Happy Hayati, 'Reformasi Hukum Pertanahan: Pengaturan Komersialisasi Ruang Tanah', *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional*, 8.3 (2019), 381 <<https://doi.org/10.33331/rechtsvinding.v8i3.354>>
- Ilyas Ismail, Abdurrahman, M. Jafar, and Azhari, 'Desentralisasi Kewenangan Bidang Pertanahan Berdasarkan Undang-Undang Nomor 11 Tahun 2006', *Media Hukum*, 17.1 (2010), 45–56
- Ismail, Nurhasan, Rafael Edy Bosko, Heri Listyawati, Hisyam Makmuri, and Dyah Ayu Widowati, 'Penjabaran Asas-Asas Pembaharuan Agraria Berdasarkan Tap Mpr No Ix / Mpr / 2001 Dalam Perundang-Undangan Di Bidang Pertanahan', *Mimbar Hukum*, 22.2 (2010), 360–72
- Liliyani, Pertiwi, Tanjung Nugroho, and Dwi Wulan Titik Andari, 'Inventarisasi Penguasaan, Pemilikan, Penggunaan Dan Pemanfaatan Tanah (IP4T) Partisipatif Di Kabupaten Madiun', *Tunas Agraria*, 3.2 (2020), 157–76 <<https://doi.org/10.31292/jta.v3i2.114>>
- Mahfiana, Layyin, 'Konsepsi Kepemilikan Dan Pemanfaatan Hak Atas Tanah Harta Bersama Antara Suami Istri', *BUANA GENDER: Jurnal Studi Gender Dan Anak*, 1.1 (2016), 29–44

<<https://doi.org/10.22515/bg.v1i1.65>>

- Nugroho, Wahyu, 'Persoalan Hukum Penyelesaian Hak Atas Tanah Dan Lingkungan Berdasarkan Perubahan Undang-Undang Minerba', *Jurnal Hukum Ius Quia Iustum*, 27.3 (2020), 568–91 <<https://doi.org/10.20885/iustum.vol27.iss3.art7>>
- Okereke, Chukwumerije, and Mark Charlesworth, *Environmental and Ecological Justice, Advances in International Environmental Politics*, 2014 <<https://doi.org/10.1057/9781137338976>>
- Rejekiningsih, Triana, 'Asas Fungsi Sosial Hak Atas Tanah Pada Negara Hukum (Suatu Tinjauan Dari Teori, Yuridis Dan Penerapannya Di Indonesia)', *Yustisia Jurnal Hukum*, 5.2 (2016), 298–325
- Sahari, Deselfia D.N.M., 'ESENSI TRANSPARANSI DAN AKUNTABILITAS DALAM PENDAFTARAN TANAH DALAM SISTEM HUKUM INDONESIA', *Al-Ishlah: Jurnal Ilmiah Hukum*, 20.1 (2018), 37–39 <<https://doi.org/10.30595/techno.v18i1.1482>>
- Saputra, Rian, Josef Purwadi Setiodjati, and Jaco Barkhuizen, 'Under-Legislation in Electronic Trials and Renewing Criminal Law Enforcement in Indonesia (Comparison with United States)', *JOURNAL of INDONESIAN LEGAL STUDIES*, 8.1 (2023), 243–88 <<https://doi.org/10.15294/jils.v8i1.67632>>
- Stevis, Dimitris, 'Whose Ecological Justice?', *Strategies: Journal of Theory, Culture & Politics*, 13.1 (2000), 63–76 <<https://doi.org/10.1080/10402130050007520>>
- Suhattanto, Muh Arif, Sarjita Sarjita, Sukayadi Sukayadi, and Dian Aries Mujiburohman, 'Kualitas Data Pertanahan Menuju Pelayanan Sertifikat Tanah Elektronik', *Widya Bhumi*, 1.2 (2021), 100–114 <<https://doi.org/10.31292/wb.v1i2.11>>
- Sukirno, Sukirno, 'Tindak Lanjut Pengakuan Hutan Adat Setelah Putusan Mahkamah Konstitusi No.35/Puu-X/2012', *Masalah-Masalah Hukum*, 45.4 (2016), 259 <<https://doi.org/10.14710/mmh.45.4.2016.259-267>>
- Sulaiman, King Faisal, 'Polemik Fungsi Sosial Tanah Dan Hak Menguasai Negara Pasca UU Nomor 12 Tahun 2012 Dan Putusan Mahkamah Konstitusi Nomor 50/PUU-X/2012', *Jurnal Konstitusi*, 18.1 (2021), 091–111 <<https://doi.org/10.31078/jk1815>>
- Suwadi, Pujiyono, Priscilla Wresty Ayuningtyas, Shintya Yulfa Septiningrum, and Reda Manthovani, 'Legal Comparison of the Use of Telemedicine between Indonesia and the United States', *International Journal of Human Rights in Healthcare*, ahead-of-p. ahead-of-print (2022) <<https://doi.org/10.1108/IJHRH-04-2022-0032>>
- Swastika, I Putu Agus, I Made Agus Ana Widiatmika, and Putu Eka Wiadi, 'Rancang Bangun Sistem Informasi Geografis Penguasaan Pemilikan Penggunaan Dan Pemanfaatan Tanah ( P4T ) Kabupaten Jembrana Berbasis Web', *Lontar Komputer*, 1.1 (2010), 4–16

- Widowati, D.Y., Yurista, A.P., Rafael Edy Bosko, R.E., 'Hak Penguasaan Atas Sumber Daya Alam Dalam Konsepsi Dan Penjabarannya Dalam Peraturan Perundang-Undangan', *Journal LEGISLASI INDONESIA*, 16.2 (2019), 147–59
- Zaid, M, Rabani Merton Halawa, Kartika Asmanda, Fadhel Arjuna Adinda, and Lamberton Cait, 'Eradicating Public Official Corruption Indonesia : A Revolutionary Paradigm Focusing on State Financial Losses', *Wacana Hukum*, 29.2 (2023), 87–111  
<<https://doi.org/10.33061/wh.v29i2.9564>>