

LAND POLICY STRATEGY IN PEATLANDS OF PANDAN SEJAHTERA VILLAGE, GERAGAI DISTRICT, EAST TANJUNG JABUNG REGENCY



Dwi Nila Wahyuningsih¹
IPB University, Bogor, Indonesia
dwinilawahyuningsih@apps.ipb.ac.id

Ernan Rustiadi²
IPB University, Bogor, Indonesia
ernan@indo.net.id

Didit Okta Pribadi³
IPB University, Bogor, Indonesia
diditpribadi@gmail.com

Abstract

The condition of land ownership, possession, and use in Pandan Sejahtera Village is predominantly characterized by unregistered land under mixed garden use. Among registered lands, corporate ownership dominates with a Right to Cultivate (Hak Guna Usaha) of 1,009.85 hectares, primarily for oil palm plantations, compared to individual ownership (Hak Milik). The regulatory framework of the Indicative Moratorium Map on Primary Forests and Peatlands (PIPPIB) serves as the main reference for reviewing land policy in the peatlands of Pandan Sejahtera. The PIPPIB boundary aligns with the provincial forest zone boundary in Jambi. Based on Ribot and Peluso's (2003) Access Theory, structural authority mechanisms influence the legality and land use rights of peatland areas recognized under the law. Policy recommendations highlight the S1, O2 strategy as a priority, emphasizing the utilization of existing regulations and technical support from institutions for peatland restoration as a key opportunity for effective land policy implementation.

Keywords: Land Tenure, Peatland Policy, Access Theory, PIPPIB, Pandan Sejahtera Village, Jambi

INTRODUCTION

Land is one of the most crucial resources with multiple roles. It is viewed as consisting of all biosphere components on the earth's surface, along with the processes occurring within it, both natural and artificial, and in specific ways connected to human activities to meet their needs (Juhadi, 2007). From a dimensional perspective based on size, land has several meanings: (1) three-dimensional, as space that includes above and below the soil surface; (2) four-dimensional, as space and its contents functioning as a container for life activities; and (3) five-dimensional, as space and all that exists within it in a unit of time (Deliyanto, 2005).

Despite its meanings and functions, land is inherently limited in area. According to BBSDLP in 2018, Indonesia's land area covers 191,093,132 hectares. Meanwhile, the average annual population growth rate from 2018 to 2023 reached 1.23% (BPS, 2023). This condition creates a mismatch with land availability, as humans require land for activities, housing, and food production.

Peatlands, due to their marginal nature, are considered alternative land resources with multifunctional roles. Given limited land availability, peatlands are regarded as potential areas for human activities, especially agriculture. However, peatlands are highly vulnerable to damage, both physically (irreversible drying) and chemically (nutrient deficiency and toxic elements) (Ratmini, 2012). Peatlands also serve diverse functions: water storage, biodiversity conservation, carbon storage, as well as social, productive, and economic roles (Najiyati et al., 2005). Being fragile ecosystems, peatlands raise debates concerning their use and management. According to Masganti et al. (2016), wise approaches and environmentally friendly, appropriate technologies are needed to harmonize various peatland functions while maintaining their ecosystems.

Based on Wetlands International data (2009), Indonesia ranks fourth globally in peatland extent and holds the largest area of tropical peatlands. Out of a global total of 362.63 million hectares, peatlands are distributed across Russia (137.5 million hectares), Canada (113.3 million hectares), Indonesia (26.5 million hectares), and the United States (22.3 million hectares). Other sources show variation: 14.9 million hectares according to BBSDLP (2011) and 24.67 million hectares based on the national peat ecosystem function map by the Ministry of Environment and Forestry (2017). Generally, peatlands in Indonesia are distributed in Sumatra, Kalimantan, Papua, and smaller areas in Sulawesi.

The vast peatland areas, particularly in Indonesia, have made them an alternative land resource. During the New Order era, population density concentrated in Java led to transmigration programs to redistribute populations and promote development outside Java, especially in Sumatra and Kalimantan—regions largely consisting of peatlands (Putra, 2019). This program also aimed to expand food crop areas to increase agricultural production. Today, peatland utilization has expanded beyond transmigration purposes due to rising land demands.

Widespread use of peatlands, however, risks ecosystem damage if sustainability principles are not followed (Jukka et al., 2016). Furthermore, land tenure conflicts and commercial exploitation of peatlands are highly likely (Afrizal et al., 2024). Therefore, given the environmental and local community importance of peatlands, reviewing land policies is

essential, particularly regarding peatland management and governance to ensure sustainability.

Operationally, granting land rights becomes a focal point of policy, as land parcels are the main object in spatial planning (Sutaryono et al., 2020). This perspective is crucial for land ownership security, especially in peatlands, where land registration policies can provide legal certainty for landholders (Rahangiar et al., 2021). With legal ownership status, communities can sustainably utilize peatlands for economic activities. Equally important, both government and local communities must adhere to peatland protection and management regulations, such as in the case of Tanjung Jabung Timur Regency.

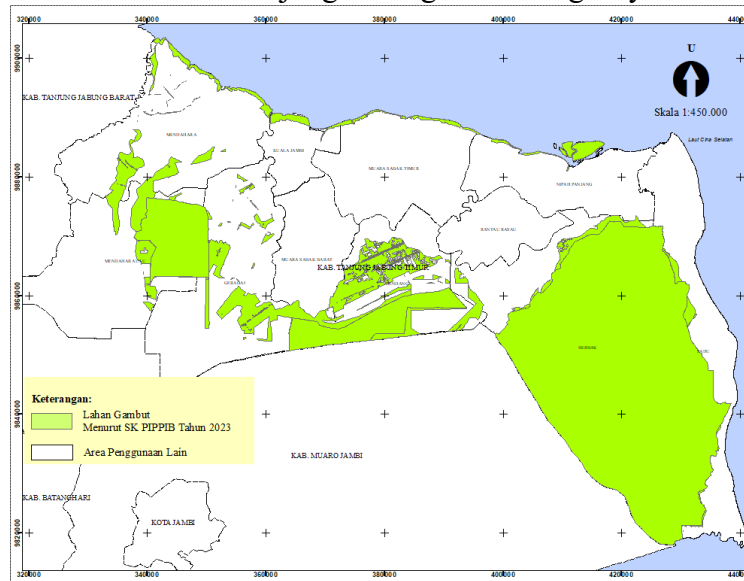


Figure 1.
General Overview of Peatland Distribution in Tanjung Jabung Timur Regency

Tanjung Jabung Timur Regency, Jambi Province, is an example of a region designated for transmigration programs, with most of its territory consisting of peatland ecosystems. With a total land area of 508,570 hectares, data from the Peat Hydrological Unit (KHG) indicate that 62.98% of the regency is peatland. However, according to the Indicative Moratorium Map on Primary Forests and Peatlands (PIPPIB), the peatland area in Tanjung Jabung Timur is recorded at 183,729 hectares, or 36.13% of the total land area (Figure 1).

Several transmigration villages were initially designated by a Decree of the Ministry of Home Affairs but were later revised by a Decree of the Regent following the administrative division of Tanjung Jabung into Tanjung Jabung Barat and Tanjung Jabung Timur in 1999. Pandan Sejahtera Village is one of the designated transmigration destinations. Administratively, the village is part of Geragai Subdistrict, where a significant portion of the land consists of peat ecosystems and includes two companies holding concessions on peatland. The coexistence of village community land ownership and corporate concessions amid peatland protection and utilization regulations creates a complex situation worth examining. Therefore, an in-depth analysis of land tenure mechanisms—both by local communities and companies—is necessary, along with the formulation of land policy

strategies for peatland areas based on the identification of existing land ownership and utilization conditions in Pandan Sejahtera Village.

LITERATURE REVIEW

Peatlands

Indonesia, with its tropical climate, is home to tropical peatlands. Tropical peat is formed through a thickening process caused by the accumulation of organic matter under waterlogged conditions. This formation process is referred to as paludification. The thickness level determines the characteristics of peat, which can be categorized into two types: thick peat, known as deep peat, and thin peat, known as shallow peat. Deep peat is predominantly composed of organic matter, while shallow peat consists of organic material mixed with mineral soil (Masganti et al., 2016). The distance from rivers or the sea contributes to differences in peat thickness (Harun et al., 2020).

Government Regulations on Peatlands

Government Regulation Number 71 of 2014 concerning the Protection and Management of Peat Ecosystems, as amended by Government Regulation Number 57 of 2016, serves as a primary consideration in peatland management. Article 1, paragraph (2) of Government Regulation Number 57 of 2016 states: *“Peat is organic material naturally formed from incompletely decomposed plant residues, with a thickness of 55 (fifty-five) centimeters or more, accumulated in swamps.”*

Land Administration

Land administration is one aspect of public administration that significantly influences human life, encompassing processes, functions, and institutions related to space above and below the ground (Arnowo, 2021). Within land administration, matters often regulated include legislation, archive management, and land information, with land management serving as its operational form.

Asset Legalization

Asset legalization, as defined in Presidential Regulation of the Republic of Indonesia Number 62 of 2023 on the Acceleration of Agrarian Reform Implementation, refers to *“the activity of first-time land registration and data maintenance within the framework of Agrarian Reform.”* In the same regulation, Article 2, paragraph (1) designates asset legalization as one of the strategies for accelerating agrarian reform implementation. Furthermore, Article 24 stipulates that asset legalization, along with land redistribution, constitutes an essential activity in asset structuring.

Land Registration

Land registration is part of the implementation of land administration mandated by Article 19 of the Basic Agrarian Law (UUPA). To this day, the operational basis for land registration is the Government Regulation of the Republic of Indonesia Number 24 of 1997 concerning Land Registration; as well as Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia Number 16 of 2021 concerning the Third Amendment to Regulation of the State Minister of Agrarian Affairs/Head of the National Land Agency Number 3 of 1997 on Provisions for the Implementation of Government Regulation Number 24 of 1997 concerning Land Registration.

RESEARCH METHOD

Research Time and Location

This research was conducted over a six-month period, from January to June 2025. The research location was at the village level, with Pandan Sejahtera Village as the chosen research location. Pandan Sejahtera Village is located in Geragai District, a village that was split off from Pandan Makmur Village (Peat Restoration Agency, 2019). The research location can be seen in Figure 3, with the following administrative boundaries:

- North: Lagan Ulu Village
- East: Pandan Makmur Village
- South: Pematang Rahim Village
- West: Merbau Village

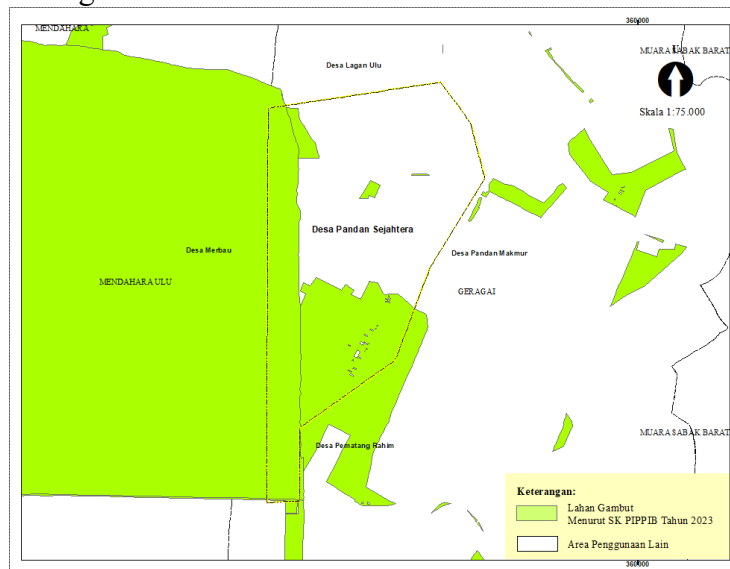


Figure 2.
Research Location

Types of Data and Research Tools

The tools used to support this research were a computer equipped with mapping software, including ArcGIS 10.3 and QGIS for Geographic Information Systems (GIS), Microsoft Office, and a Global Positioning System (GPS). For data, this study utilized both primary and secondary data. Primary data were obtained from high-resolution imagery for fieldwork, field observations and orientation, and interviews with village officials in Pandan Sejahtera Village and key individuals. Secondary data consisted of a base map of Tanjung Jabung Timur Regency in shapefile (shp) format, containing administrative boundaries from the regency to the village level, information on water resources and road infrastructure, population data, land data in the form of registered land parcels and Land Use Rights (HGU) as of January 2025, the 2025 PIPPIB map (shp), the RTRW map of Tanjung Jabung Timur Regency, a map of Jambi Provincial Forest Area boundaries, and several regulations underlying the issuance of the spatial data. Matrix of relationships between objectives, data types, data sources, analysis methods, and research outputs.

RESULT AND DISCUSSION

Identification of Land Control, Ownership, and Use Structure Control Structure

Land ownership, as defined in Law Number 5 of 1960, also known as the Basic Agrarian Law (UUPA), refers to the legal relationship between individuals, groups, or legal entities regarding an object (land). Ownership has a broad scope, encompassing both de facto and de jure ownership. De facto ownership is defined as ownership solely related to the acquisition of the land, such as through inheritance or customary law. However, if the ownership relationship extends beyond physical ownership and is also associated with rights, such as a power of attorney, lease, or sale, it is considered de jure ownership due to the existence of evidence of ownership rights in the ownership process (Benning et al. 2016).

These land ownership processes are then classified into several types, including ownership by owners, non-owners, legal entities, the government, and state ownership. In reality, land ownership in Pandan Sejahtera Village is quite varied, grouped into categories of owners, local government, legal entities, village government, and the state. The results of the identification of ownership structures in Pandan Sejahtera Village showed that most of the land is dominated by owner status, then legal entities, control by the state, and finally control by the village government and local/district government. The following are the results of the identification of land ownership in Pandan Sejahtera Village, visualized in the form of a map and table of land ownership types.

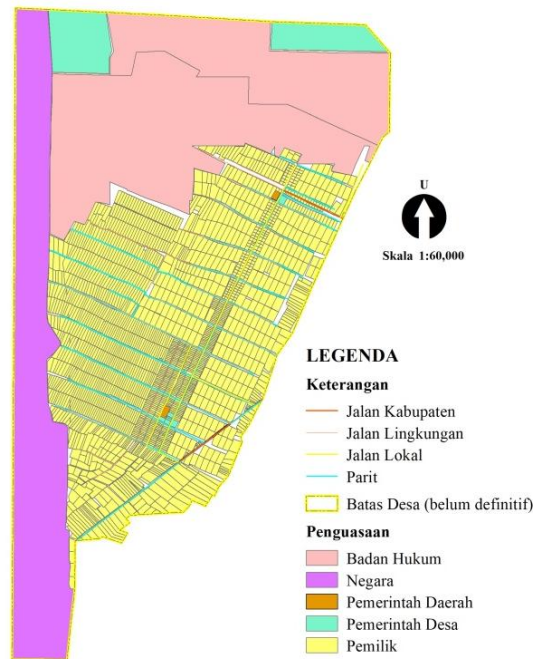


Figure 3.
Land Tenure Map in Pandan Sejahtera Village

Table 1.
Types of Land Tenure in Pandan Sejahtera Village

No.	Types of Land Ownership	Number of Fields		Area	
		Number (Fields)	%	Area (Ha)	%
1	Owner	2.083	98,67	1968,76	45,87
2	Non Owner	0	0,00	0	0,00
3	District Government	8	0,38	11,06	0,26
4	Legal Entity	2	0,09	1.330,06	31,00
5	Village Government	17	0,81	188,42	4,39
6	Nation	1	0,05	793,28	18,48
Total		2.111	100	4.291,58	100

Almost half of Pandan Sejahtera Village is dominated by privately owned land, accounting for 2,083 parcels covering 1,968.76 hectares or 45.87% of the total village area. These parcels are entirely managed by individual owners, reflecting the influence of land distribution through transmigration programs, particularly in the central village area.

The history of land tenure in Pandan Sejahtera originates from the Transmigration Settlement Unit (SPT). Formerly part of Pandan Makmur Village, it became an independent administrative unit in 2005. Transmigration placements occurred three times: first in 1981 with 50 households from Ponorogo, Jember, and Banyuwangi; second in 1996 under the Self-Initiated Transmigration (TSM) program with 150 households; and third in 2001 under the General Transmigration (TU) scheme with 300 households from local areas and Aceh. Each household received agricultural and residential land, creating a systematic land ownership pattern.

In the northern part of the village, legal entities control 1,330.06 hectares or 31% of the area, clearly demarcated between two corporate concessions. State-controlled land, marked in purple along the western boundary, covers 793.28 hectares or 18.48% of the total area and serves as a boundary with neighboring villages. The remaining 4.39% is controlled by the village government (light green) and the regional government (orange, 0.26%).

Village government land originates from the transmigration land distribution, initially allocated for public facilities. However, over time, some parcels have not been optimized as intended and are now managed directly by the village administration.

Land Ownership Structure

Clear and legitimate land ownership status serves as the fundamental basis for ensuring legal certainty. According to Article 16 of the Basic Agrarian Law (UUPA), land ownership refers to the legal relationship between a subject and an object—whether individual-to-individual, individual-to-group, or between an individual and a legal entity—accompanied by ownership evidence, both registered (attached to a right) and unregistered.

In Pandan Sejahtera Village, identification results recorded 601 registered land parcels with legal Land Rights (Hak Atas Tanah/HAT), representing less than 30% of the total land parcels in the village. Based on the types of HAT recognized under the UUPA, three legal categories were identified in the village: Ownership Rights (Hak Milik), Cultivation Rights (Hak Guna Usaha/HGU), and Use Rights (Hak Pakai).

The distribution map of registered land shows that most registered parcels are concentrated in the northern part of the village, dominated by HGU status. Two corporations hold these rights: PT Indonusa Agromulia, which legally obtained 541.66 hectares of HGU in 2013 for a 35-year period, and PT Hazrin Nurdin Nusaphala, which received 468.19 hectares of HGU in 2017.

However, a discrepancy exists between the ownership map and the land control map. In practice, PT Indonusa Agromulia is estimated to physically control up to 840.69 hectares, while PT Hazrin Nurdin Nusaphala controls approximately 489.37 hectares—larger than the officially registered areas shows a difference with the area registered as HGU.

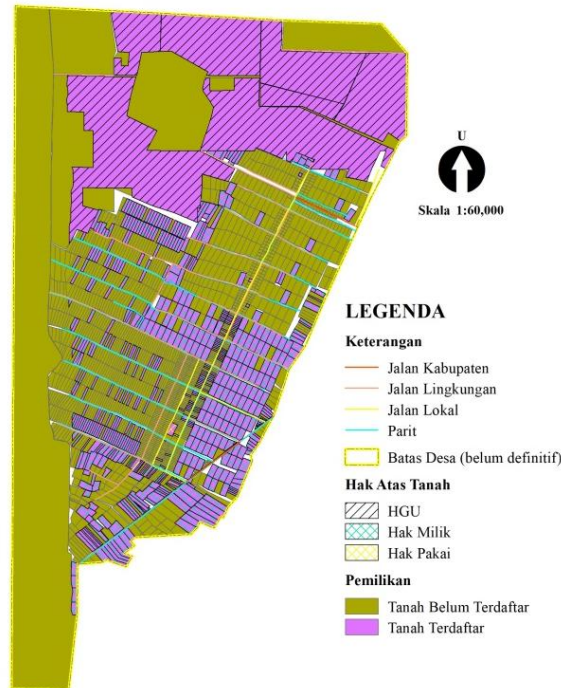


Figure 4.
Land Ownership Distribution Map in Pandan Sejahtera Village

Table 2.
Land Ownership Types in Pandan Sejahtera Village

No.	Types of Land Ownership	Number of Fields		Are	
		Number (Fields)	%	Are (Ha)	%
1	Registered Land	601	28,44	1.753,22	40,85
	• Ownership Rights	590		733,44	
	• Cultivation Rights (HGU)	2		1.009,85	
	• Usage Rights	9		9,93	
2	Unregistered Land	1.512	71,56	2.538,36	59,15
	Total	2.113	100	4.291,58	100

Although physical land control by companies may extend beyond officially registered HGU areas, such land is highly vulnerable to ownership conflicts, particularly where company concessions border transmigration lands. In Pandan Sejahtera, registered land ownership is also found in community parcels concentrated in the east, south, and central areas of the village, mostly under Ownership Rights (Hak Milik). A total of 590 parcels have been legalized as Hak Milik, largely through the government's Land Redistribution Program under the Agrarian Reform (TORA) mandate of Presidential Regulation No. 62/2023. Redistribution was carried out in three phases: 202 parcels in 2021, 156 in 2022, and 207 in 2024.

In comparison, company-held Cultivation Rights (HGU) cover far larger areas than individually owned land, making corporate ownership more dominant in the village. In addition, nine parcels have been registered as Use Rights (Hak Pakai). However, the majority of land—1,512 parcels or 71.56%—remains unregistered, most of it held directly by villagers. This high percentage reflects the urgent need for both government support and stronger community awareness regarding land legalization to reduce potential land conflicts and strengthen tenure security in Pandan Sejahtera.

Land Use

According to Government Regulation Number 16 of 2004 concerning land use, land use is defined as the form of earth's surface cover formed through natural and man-made processes. Based on data inventory and field surveys, six types of land use were found in Pandan Sejahtera Village. These six land uses include forests, plantations, mixed gardens, villages, government, and public facilities. The following are the results of the identification and inventory presented in the form of maps and tables of land use types in Pandan Sejahtera Village.



Figure 5.
Land Use Map in Pandan Sejahtera Village

Table 3.
Land Use Types in Pandan Sejahtera Village

No.	Type of Land Use	Number of Fields		Area	
		Number (Fields)	%	Area (Ha)	%
1	Forest	1	0,05	793,28	18,48
2	Farm	2	0,09	1.330,06	31,00
3	Mixed Garden	1.658	78,54	2.039	47,51
4	Village	422	19,99	111,35	2,59
5	Government	1	0,05	0,74	0,02
6	Public Facilities	27	1,28	17,15	0,40
Total		2.111	100	4.291,58	100

In the western part of the village, stretching north to south, lies the Sungai Buluh Peat Protected Forest (HLG), designated as a protected area in the 2021 Forest Area Gazette Map. This flat peatland, dominated by histosols, is under state control. Meanwhile, legal entities control land in the north, primarily for palm oil plantations with clearly visible planting patterns, separated from community land by company-built dirt roads.

Community lands, initially used for rice and horticulture during transmigration settlement, have mostly shifted since around 2003 to mixed gardens, with palm oil, areca nut, and coconut as main commodities. Areca nut trees are often used as natural boundaries, while some villagers still grow horticulture like chili, pineapple, and dragon fruit.

Village settlements are organized along roads, with plots of about 2,500 m² allocated during transmigration. Initially consisting of government-provided wooden stilt houses due to swampy conditions, between 2002–2006 residents gradually replaced them with permanent houses, aided by canal systems (Sekat Kanal) that improved drainage.

Public facilities are concentrated in the south, near the village office, including schools, a health post, sports fields, and mosques. Many prayer houses (mushola) were built on land donated by villagers. Some areas originally designated for public facilities are now used as mixed gardens by villagers with the knowledge of the village head.

Overall, land ownership, tenure, and use in Pandan Sejahtera show 14 combinations, with the largest being: (1) Private owners–Unregistered–Mixed Gardens (1,133 parcels/1,144.26 ha), (2) Legal entities–Registered (HGU)–Plantations (2 parcels/1,009.85 ha), (3) State–Forest Land (1 parcel/793.28 ha), and (4) Private owners–Registered (Hak Milik)–Mixed Gardens (519 parcels/711.18 ha).

Identification of land areas in Pandan Sejahtera Village with peatland boundaries (spatially)

The rapid conversion of forests and peatlands due to land demand has led to degradation in both area and function. This prompted the government, as policymaker, to issue regulations focused on forest governance, protection, and management. In response to this urgent condition, strict regulations were introduced, including a moratorium on issuing new permits for primary forests and peatlands.

However, these regulations also restrict community rights to obtain land ownership, particularly in peatland areas. In many cases, communities had already physically occupied

the land before such regulations were enacted. The moratorium limits their ability to process ownership rights if the land is classified as protected. In practice, many people are unaware that the land they occupy falls under forest or peatland categories. This is especially evident in transmigration programs to Kalimantan and Sumatra, where settlement areas are often characterized by swampy land.



Figure 6.
Land Area Map Image with (a) PIPPIB, (b) Forest Area Boundary, (c) District Spatial Pattern

The identification of land parcels using PIPPIB peatland data shows that parcels in the southern part of the village are categorized as PIPPIB peatlands, the western side as state forest under PIPPIB Conservation Forest, and parts of the northern area as non-PIPPIB. These parcels were further synchronized with forest boundaries and spatial plans (RTRW) of Tanjung Jabung Timur Regency, serving as a mandatory filter for land rights issuance under ATR/BPN Regulation No. 16/2021.

The synchronization results indicate consistency between PIPPIB conservation forest boundaries and the provincial protected forest map of Jambi. Meanwhile, PIPPIB peatlands are shown as non-forest areas or Other Land Use (APL). However, overlaying these data with the RTRW revealed discrepancies between designated protected areas and cultivation zones. This difference likely arises because the spatial plan map was ratified in 2020, while the latest forest boundary decree was issued in 2021. The synchronization highlights spatial relationships that help determine the legal status of land parcels.

Table 4.
Relationship Patterns of Control, PIPPIB, Forest Areas, and Regency RTRW

No	Ownership Status	Tenure	PIPPIB	Forest Area Boundary	Spatial Plan (RTRW) Allocation	Area (Ha)	Land Status
1	Owner	Registered Land	Peatland	APL	Conservation Area	7.57	Illegal

2	Owner	Registered Land	Peatland	APL	Cultivation Area	362.63	Legal/Right
3	Owner	Unregistered Land	Peatland	APL	Conservation Area	0.34	Illegal
4	Owner	Unregistered Land	Peatland	APL	Cultivation Area	490.96	Illegal
5	Owner	Unregistered Land	Conservation Forest Area	Protected Forest	Conservation Area	95.31	Illegal
6	State	-	Peatland	APL	Cultivation Area	0.07	Legal
7	State	-	Conservation Forest Area	Protected Forest	Conservation Area	792.83	Legal
8	State	-	Conservation Forest Area	Protected Forest	Cultivation Area	0.58	Illegal
9	Legal Entity	Registered Land	Peatland	APL	Cultivation Area	14.95	Illegal
10	Legal Entity	Registered Land	Conservation Forest Area	Protected Forest	Cultivation Area	71.51	Illegal
11	Legal Entity	Registered Land	Peatland	APL	Cultivation Area	0.13	Legal/Right
12	Legal Entity	Registered Land	Conservation Forest Area	Protected Forest	Cultivation Area	0.62	Illegal
13	Village Government	Registered Land	Peatland	APL	Cultivation Area	5.55	Legal/Right
14	Village Government	Unregistered Land	Peatland	APL	Cultivation Area	52.22	Illegal
15	Village Government	Unregistered Land	Conservation Forest Area	Protected Forest	Cultivation Area	17.81	Illegal

The synchronization table shows 15 relationship patterns, with 6 classified as legal land status and 9 as illegal. Legal status is determined when current registered ownership aligns with PIPPIB peatland data, and both forest boundaries and the regency's RTRW designate the land as non-forest or cultivation areas. However, anomalies were identified. For instance, a 0.62-hectare HGU parcel owned by PT Indonusa (No. 12) is registered but categorized under PIPPIB Conservation Forest and designated as a protected forest in the official boundaries. A similar anomaly occurs in parcel No. 1, where registered private ownership overlaps with PIPPIB peatland—classified as non-forest—but is designated as protected in the spatial plan. Despite these inconsistencies, the parcels remain registered and attached to legal land rights.

Land Access and Ownership Mechanisms in Peatlands

Based on the previous analysis, the complex dynamics of land control and ownership in Pandan Sejahtera Village, particularly in peatlands, are known. The access ownership factor by landowners, in accordance with Ribot and Peluso's (2003) Access Theory, can be said to be the main framework for explaining land control and ownership mechanisms in peatlands. The following is a classification of rights-based and structural/relational mechanisms that play a role in land control and ownership mechanisms in the peatlands of Pandan Sejahtera Village.

Table 4.
Land Access and Ownership Mechanisms in Peatlands

No	Control Status	Ownership	PIPIB	KH Boundary	District Spatial Pattern	Area (Ha)	Land Status	Land Control Process	Access Mechanism (Rights-Based)	Access Mechanism (Structural)	Total Area (Ha)
1	Owner	I	LG	APL	KL	7.57	Illegal	Individual Control	Legal/Rights	Land Market, Capital, Authority	7.57
2	Owner	I	LG	APL	KB	362.63	Legal/Rights	Transmigration Allocation	Legal/Rights	Land Market, Capital, Authority	173.08
3	Owner	BI	LG	APL	KL	0.34	Illegal	Individual Control	Illegal	Land Market, Capital	0.34
4	Owner	BI	LG	APL	KB	490.96	Illegal	Transmigration Allocation	Illegal	Authority, Land Market, Capital	321.71
5	Owner	BI	KHK	HL	KB	95.31	Illegal	Individual Control	Illegal	Authority, Land Market, Capital	16.72
6	State	-	LG	APL	KL	0.07	Legal	Forest Boundary Demarcation	Legal	Authority	793.28
7	State	-	KHK	HL	KL	792.83	Legal	Forest Boundary Demarcation	Legal	Authority	793.28
8	State	-	KHK	HL	KB	0.38	Legal	Forest Boundary Demarcation	Legal	Authority	793.28
9	Legal Entity	BI	LG	APL	KB	14.95	Illegal	PT Hazrin / PT Indomusa Company	Illegal	Capital, Land Market	1.14
10	Legal Entity	BI	KHK	HL	KB	71.51	Illegal	PT Indomusa Company	Illegal	Capital, Land Market	71.51
11	Legal Entity	I	LG	APL	KB	0.13	Legal/Rights	PT Hazrin Company	Legal/Rights	Authority, Land Market, Capital	0.13
12	Legal Entity	I	KHK	HL	KB	0.62	Illegal	PT Indomusa Company	Illegal	Authority, Land Market, Capital	0.62
13	Local Government	I	LG	APL	KB	5.55	Legal/Rights	District Government	Legal/Rights	Authority	5.55
14	Village Government	I	LG	APL	KB	52.22	Illegal	Village Government	Illegal	Authority	70.03
15	Village Government	BI	KHK	HL	KB	17.81	Illegal	Village Government	Illegal	Authority	70.03

Description: T=Registered; BT=Not Registered; LG=Peatland; KHK=Conservation Forest Area; APL=Other Use Area; HL=Protected Forest; KL=Protected Area; KB=Cultivation Area

Registered land ownership in peatland areas, based on rights-based access mechanisms, is considered legal since formal status is granted by the competent authority. This also applies to anomalies identified in the previous analysis. According to Ribot and Peluso’s (2003) access theory, parcels deemed “illegal” under analytical framework objective 2 (Nos. 1 and 12) are legally recognized through authority-driven rights allocation. In contrast, unregistered lands controlled by individuals or corporations rely more on structural and relational mechanisms, such as access to information, land markets, and purchasing power. These market-driven processes often accelerate large-scale land transfers, especially for unregistered parcels, thereby increasing the risk of land conflicts. Hence, formal legalization of land, particularly those under transmigration schemes and native villagers in peatland areas, is crucial. Individual ownership is vital for sustaining peatland management compared to control by external actors.

Land Policy Strategy in Peatlands

The development of recommended land policy strategies for Pandan Sejahtera Village is inseparable from the analysis results of the previous objectives. The AWOT approach was chosen because of its complementary combination of methods. Internal and external factors obtained through expert opinions are then strengthened with a structured approach to produce final recommendations that are not subjective.

The following is a compilation of internal and external factors that play a role in developing land policy strategies in peatlands, obtained from five experts in East Tanjung Jabung Regency.

Table 5.
SWOT Table

Strength (S)	Weakness (W)
1. Regulations/regulations for management and utilization of peat land with certain terms and conditions	1. Lack of coordination and integration between policy makers in peatlands resulting in overlapping management policies in peatlands.
2. Control of peatland that existed before the issuance of the moratorium regulations	2. Lack of law enforcement in monitoring the management and utilization of peatlands
3. Peatland data has been integrated with district spatial planning	3. The peat map scale (1:250,000) is less suitable and accurate when applied at the district scale.
Opportunities (O)	Threats (T)
1. Empowering potential and sustainable economy with appropriate direction and technology	1. Management and utilization of uncontrolled peatlands
2. Learning and research facilities on peatlands	2. Expansion of control over peatland by the general public and even conversion of peatland
3. Technical support by institutions for peat restoration and increasing public awareness of environmental issues	3. Climate change and increased risk of land fires

Each of the factors above was then structured hierarchically for assessment using the AHP method. Following the AHP steps, each factor was structured to obtain a weight based on pairwise comparisons. The resulting weightings were then processed by an expert and subjected to a consistency test, which required a value of less than or equal to 0.1. The following is the normalization result for each SWOT factor, which resulted in the determination of factor and sub-factor weights.

Table 6.
AWOT Table

Factor	Factor Weight	Sub-Factor Symbol	Sub-Factor Description	Sub-Factor Weight	Score	Local Rank
Strength (S)	0.295	S1	Regulations/policies on peatland management and utilization under certain terms and conditions	0.486	0.143	1
		S2	Control over peatland already established before the issuance of moratorium regulations	0.273	0.080	2
		S3	Integrated peatland data in district spatial planning	0.241	0.071	3
Weakness (W)	0.153	W1	Lack of coordination and integration among stakeholders in peatland policy, causing overlapping management	0.384	0.059	1
		W2	Weak law enforcement and supervision in peatland utilization and management	0.340	0.052	2
		W3	Peatland maps (1:250,000) inaccurate or unsuitable when applied at district level	0.276	0.042	3
Opportunities (O)	0.272	O1	Empowerment of sustainable economic potential with proper direction and technology	0.341	0.093	2
		O2	Research and learning facilities for peatland	0.261	0.071	3
		O3	Technical support from institutions for peatland restoration and raising community environmental awareness	0.398	0.108	1
Threats (T)	0.279	T1	Uncontrolled peatland management and utilization	0.305	0.085	3
		T2	Expansion of peatland control by the general public, even outside peatland areas	0.372	0.104	1
		T3	Climate change and increased risk of peatland fires	0.323	0.090	2
Total	1	-	-	4	1	-

The priority strategy derived from the above findings is the SO strategy, combining S1 and S2 with O2 and O3. Utilizing existing regulations and policies, supported by technical

assistance from institutions in peatland restoration, creates opportunities for implementing land policies in peatland areas. Relevant regulations include those referring to PIPPIB, which provides exceptions for individually owned lands in APL accompanied by proof of ownership or control prior to Ministerial Decree SK.323/Menhut-II/2011. Maximizing land tenure data collection before the issuance of the moratorium, along with technical support for peatland restoration focusing on sustainable management, can enhance long-term economic potential, reduce peatland degradation, and minimize fire risks.

Another strategy is the WT approach, addressing weaknesses by improving coordination and integration among peatland stakeholders (W1) to prevent uncontrolled land management (T1). Given the ecological, social, and political interests overlapping in peatland, it is crucial to establish clear and harmonized land boundaries without overlaps. Strengthening law enforcement through consistent sanctions against violators (W2), alongside the delineation of conservation areas on the ground, can also prevent further land encroachment, particularly in protected peatland zones and conversion areas (T2). With proper implementation, land policies in Desa Pandan Sejahtera's peatland can be realized in a clean and clear manner, ensuring ecological functions are preserved for sustainability.

CONCLUSION

The condition of land control, ownership, and use in Pandan Sejahtera Village is dominated by the ownership status of unregistered landowners with mixed plantation land use types. Looking at the registered land ownership status, control by legal entities is more dominant, with Cultivation Rights (Hak Guna Usaha) covering an area of 1,009.85 Ha with oil palm plantation use compared to Ownership Rights (Hak Milik). Regulations related to the termination of the issuance of new permits in primary natural forests and peatlands or what is often referred to as PIPPIB, serve as a reference basis in examining land policies in the peatlands of Pandan Sejahtera Village. The PIPPIB boundary shows a boundary that is synchronous with the forest area boundary of Jambi Province. Based on the analysis of land control referring to the Access Theory by Ribot and Peluso (2003), the structural mechanism of authority access influences the legal status and land use rights in legally valid peatlands. In accordance with the results of the preparation of land policy recommendations, the implementation of the S1, O2 strategy can be a priority strategy. Utilization of existing rules and regulations with technical support from institutions in terms of peat restoration can be an opportunity to implement land policies in peatlands.

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