



Corporate environmental compliance and sustainability in palm oil plantation activities

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ABSTRACT

Background: One key aspect of sustainable palm oil industry development is responsible environmental management. The Indonesian government, through the Ministry of Agriculture, mandates that oil palm plantation companies implement Indonesia Sustainable Palm Oil (ISPO) standards. A crucial requirement includes conducting an Environmental Impact Analysis (EIA) and obtaining environmental permits. Companies must enhance their sustainability performance, particularly in environmental management. **Methods:** The research method used is to review environmental management documents and evaluate the results of laboratory analysis that have been obtained by PT. T. Data collection in this study was carried out through observation, interviews and literature studies. This study aims to examine the effectiveness of the implementation or implementation of the RKL-RPL of Oil Palm Plantations of PT. T with reference to environmental documents. **Findings:** Findings indicate that PT. T's Environmental Impact Analysis/*Analisis Dampak Lingkungan* (AMDAL) implementation complies with regulatory requirements. The Environmental Management Plan/*Rencana Pengelolaan Lingkungan* (RKL)—Environmental Monitoring Plan/*Rencana Pemantauan Lingkungan* (RPL) implementation is considered effective due to strong internal and external communication and coordination. Effective environmental management is driven by clear policies, standard operating procedures (SOPs), and competent human resources. Additionally, the company benefits from a well-structured organization, sufficient facilities, and adequate funding. **Conclusion:** The implementation of PT T's Environmental Management Plan/*Rencana Pengelolaan Lingkungan* (RKL)—Environmental Monitoring Plan/*Rencana Pemantauan Lingkungan* (RPL) in environmental management has been effective due to intensive communication, internal-external coordination, and the support of clear policies and standard operating procedures (SOPs). This success is supported by competent human resources, a well-structured organization, as well as adequate facilities and funding. **Novelty/Originality of this article:** The novelty of this research lies in its comprehensive evaluation of corporate environmental management effectiveness, offering valuable insights into best practices for sustainable palm oil production in Indonesia.

KEYWORDS: agriculture; environment; palm oil; sustainable.

1. Introduction

The Reform Movement that occurred in early 1998 not only influenced the paradigm change and political direction at the national level, including in the forestry sector, but also followed by social turmoil at the field/management unit level. The change in the orientation

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of natural resource management from centralistic and purely state foreign exchange to decentralistic and equitable for the welfare of the community as mandated by the 1945 Constitution Article 33, has been preceded at the field level with conflicts between forest entrepreneurs and the surrounding communities. As is known, as a result of 'democratization', many community groups demand compensation for the 'exploitation' of livelihoods (e.g. customary land/forests) and socio-cultural bases (e.g. eviction of ancestral graves) in line with the operations of companies holding Forest Concession Rights (HPH/IUPHHK/PBPH). In some places, reforms that are defined as 'freedom' are even followed by irresponsible actions, namely in the form of encroachment and theft of timber, which not only harms the state but also the community around the forest itself.

Palm oil is one of the main commodities for Indonesia that plays an important role in national economic growth. The Indonesian government continues to innovate in developing a sustainable national palm oil industry to face the demands of the world market and the competition of palm oil businesses in the world. Oil palm plantations are one of the *prima donnas* with positive benefits of economic growth felt by the community. Since the emergence of oil palm plantation policies in Indonesia since the 1960s, oil palm plantations have continued to grow rapidly (Gultom, 2023).

In Indonesia, the development of the palm oil industry is growing rapidly and is the largest palm oil producer in the world, but it also faces many challenges (Gultom, 2023). Several foreign environmental forums state that the palm oil industry is destroying the environment, this statement is very detrimental to the development of this industry. Environmental pollution that occurs by companies that carry out palm oil processing activities is due to several supporting factors, namely socio-economic factors, policies, and the absence of supervision.

Indonesia Sustainable Palm Oil (ISPO) is a Government policy, namely Presidential Regulation No. 44 of 2020 concerning the Indonesian Sustainable Palm Oil Plantation Certification System and Regulation of the Minister of Agriculture of the Republic of Indonesia Number 38 of 2020 concerning the Implementation of Indonesian Sustainable Palm Oil Plantation Certification, one of the goals of which is to increase efforts to accelerate the reduction of greenhouse gas emissions and pay attention to the problem milieu

The sanctions given to plantation companies that do not carry out ISPO certification are regulated in Ministerial Regulation 38/2020 Article 58 paragraph (1), among others, in the form of written warnings, temporary suspension or revocation of business licenses. Meanwhile, Presidential Regulation No. 44/2020 in article 6 states that business actors, both plantation companies and planters, who violate the provisions of the ISPO certification obligation, are subject to administrative sanctions in the form of written warnings, fines, temporary suspension from the oil palm plantation business, freezing of ISPO certificates, and/or revocation of ISPO certificates.

Therefore, sustainable management of the palm oil industry, especially environmental management, needs special attention because this is a very sensitive global problem so it has the potential to have a negative impact on the palm oil industry if there is no good management. The palm oil business is growing rapidly in Indonesia and encountering various challenges. Several environmental institutions abroad have made negative accusations, namely the palm oil industry as a destroyer of the environment, so that the development of the palm oil industry in Indonesia is certainly very disadvantageous (Angga et al., 2021).

An important issue in the rapid growth of the oil palm plantation industry will raise various major issues that must be addressed seriously. Although it has a positive impact on economic growth, oil palm plantations will also cause considerable environmental problems, such as the decline of forest areas, the extinction of biodiversity, and the global greenhouse gas effect (Kamim & Abrar, 2020). The problem that often occurs is the emergence of social problems, where conflicts arise over land from indigenous peoples and oil palm plantation companies.

The management of palm oil natural resources needs to be managed properly, so that there is an increase in economic benefits for the community around the company without

harming the environment and the welfare of the local community. Another loss arising from the conversion of land to oil palm plantations is the extinction of wildlife habitats, including endangered species (Enala et al., 2024). Changes in land use in various regions will have an impact on climate change, drought or flood risk. The livelihoods of people around the forest will have an impact on the loss of natural resources that are an integral part of people's lives (Fatima etl al., 2024).

In Law No. 32 of 2009, the environment is the unity of space with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other living things. Sukarna (2021) explained that human interaction with other living things and their environment to live, causes each other to influence and be influenced by each other.

The problems that often arise are usually pollution and environmental destruction. Environmental pollution is the entry or introduction of living things, substances, energy, and/or other components into the environment by human activities so that they exceed the environmental quality standards that have been set (Law No. 32 of 2009). According to Chen et al. (2023), in principle, people who pollute will also destroy the environment and vice versa. In controlling environmental problems, the treatment of each country is very different.

The need for environmental protection and management is based on the declining quality of the environment that has threatened the survival of human life and other living things, so it is necessary to carry out serious and consistent environmental protection and management by all stakeholders. In addition, the increasing global warming has resulted in climate change, exacerbating the decline in environmental quality. Based on the general provisions of Law No. 32 of 2009 concerning Environmental Protection and Management, what is meant by Environmental Protection and Management is a systematic and integrated effort carried out to preserve environmental functions and prevent pollution and/or environmental damage which includes planning, utilization, control, maintenance, supervision, and law enforcement.

The environment is one of the important components in human life. Therefore, humans in utilizing their natural resources must always be based on an environmental approach. Therefore, there needs to be continuous changes and regulations on the environment and environmental behavior. This is natural because the natural resources needed have limitations in many ways, namely limitations regarding availability according to quantity and quality. This is where the absolute role of the ruler can be a good manager in every policy-making that has a paradigm of thinking that cares for the environment (Mahfud et al., 2022).

The environmental management includes carrying out obligations related to Environmental Impact Analysis (EIA) and environmental licensing, conservation of water sources and quality, waste management and utilization, control of disturbances from immobile sources (noise, vibration, odor), and identifying sources of greenhouse gas emissions. Therefore, any activity that is estimated to have a negative impact on the environment is required to carry out an EIA. The purpose of the EIA is so that environmental changes due to development do not reduce or eliminate the ability of the environment to support life at a higher level of quality. To achieve the goal, the final result of the AMDAL must be in the form of an Environmental Management Plan/*Rencana Pengelolaan Lingkungan* (RKL) and an Environmental Monitoring Plan/*Rencana Pemantauan Lingkungan* (RPL).

The large oil palm plantation area in East Kalimantan is currently concentrated in East Kutai, Kutai Kartanegara and North Penajam Paser Regencies. Meanwhile, several other districts and cities are still in a limited area. PT. T is engaged in oil palm plantations with a location permit covering an area of 15,748.14 ha (HGU area of 14,810.14 ha) which is located in Kaubun District, Sangkulirang District and Karangan District, East Kutai Regency, East Kalimantan Province and has 2 palm oil mills, namely Bukit Permata Mill (BPM) with a capacity of 45 Tons of FFB/Hour and Procurement of Baay Mill (PBM) with a capacity of 60 Tons of FFB/Hour. PT. T already has environmental documents (EIA), Environmental

Permits and during its operations has carried out environmental management and routinely conducts environmental monitoring and reporting. PT. T has formally received the Blue PROPER award for the 2022-2023 period from the Ministry of Environment and Forestry of the Republic of Indonesia.

One of the steps to increase the effectiveness of the implementation of the AMDAL is to implement the Environmental Management Plan in response to the implementation of business operations and/or activities with a dynamic character by business actors and/or activities (Soemarwoto 2014). The effectiveness study is important in the implementation of the RKL-RPL carried out by PT. T, therefore the purpose of this study is to examine the effectiveness of the implementation or implementation of the Environmental Management Plan of PT. T's Oil Palm Plantation by referring to environmental documents.

2. Methods

This research was conducted in the area of PT. T, a company engaged in oil palm plantations, precisely located in Karangan Seberang Village, Karangan District, East Kutai Regency, East Kalimantan Province. The following is the location of the research presented in Figure 1.

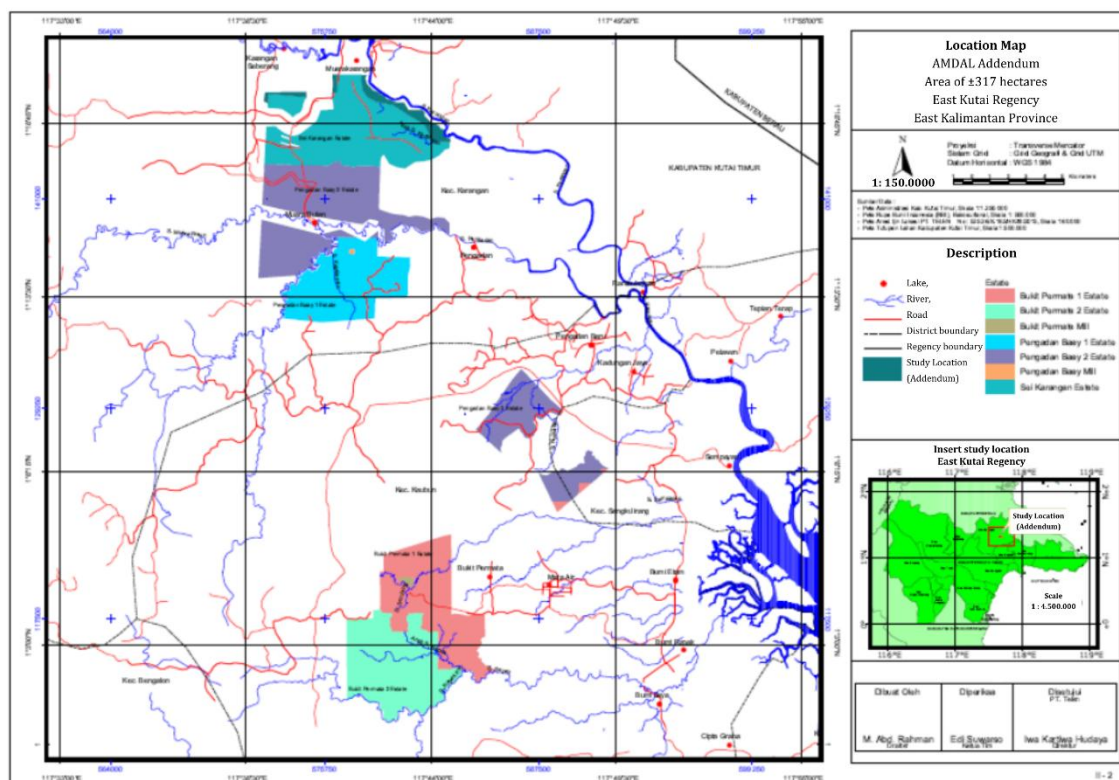


Fig. 2. Map of research location in Karangan Seberang Village, Karangan District, East Kutai Regency, East Kalimantan Province

This research method is carried out by: a. Review environmental management documents and the results of environmental management implementation (physical, chemical, and biological aspects) of business activities; and b. Evaluating the results of laboratory analysis that has been obtained refers to environmental quality standards based on Government Regulation No. 22 of 2021 and standards owned by PT. T.

This research emphasizes on compliance with the implementation of Environmental Management Plan—Environmental Monitoring Plan/Rencana Pemantauan Lingkungan (RPL), institutions, and supervision. This research is limited to the area of additional PT. T oil palm plantation locations covering an area of 317 ha. The study of the effectiveness of the implementation of the Environmental Management Plan—Environmental Monitoring

Plan is carried out at the operational stage. The research data period is 2 (two) years, namely from 2022 to 2023.

Qualitative data collection techniques are carried out through observation, interviews and literature studies. This interview was conducted by collecting information from several key figures, namely from government agencies (East Kutai Regency Environmental Agency), and from the Initiator (PT. T). After the data is collected, qualitative data analysis is carried out in a narrative, descriptive manner, and factors that affect the effectiveness of the implementation of environmental management and monitoring.

The collection of quantitative data is carried out by using the results of the Environmental Monitoring Report from the results of a literature study from the Regulation of the Minister of Environment and Forestry Number 1 of 2021 concerning the Company Performance Rating Assessment Program in Environmental Management. Moreover, the criteria for compliance aspects of the implementation of environmental management and monitoring in Hernadi (2020) and Fahmawati and Purnaweni (2016) are as follows. Furthermore, aspects of compliance with the implementation of environmental management and monitoring must be considered. In addition, the institutional aspects of the implementation of environmental management and monitoring include the institutional structure, such as the number of members of the environmental manager, the qualifications of members, and the management departments, as well as coordination and communication in the internal and external environment. Lastly, aspects of supervision of the implementation of environmental management and monitoring include the intensity and form of supervision, the process and output of supervision, and the human resources involved in supervision.

The quantitative data analysis technique from the results of the literature study was then carried out by scoring (for different criteria it was a score of 0-2) while the data from the results of interviews with agencies and initiators were carried out through the calculation of percentage proportions. The effectiveness criteria used are based on the criteria of all aspects of research that are derived from several aspects, namely obedience, institutional, supervision with a value of >60% (Wahid et al., 2016).

3. Results and Discussion

3.1 Development of East Kalimantan oil palm plantations

The biggest impact of oil palm plantations is deforestation in tropical forest areas in Indonesia and Malaysia. Nakita and Najicha (2022), in Indonesia, about 30% of tropical forests are converted to oil palm plantations, causing the loss of important habitats for endangered species such as orangutans and Sumatran tigers. The occurrence of deforestation will cause climate change problems caused by oil palm plantation activities which will contribute to an increase in greenhouse gas emissions globally. In addition, the expansion of oil palm plantations will trigger land degradation and in the long term will have an impact on the ecosystem, thus affecting food security and the welfare of local communities (Fatima et al., 2024)

East Kalimantan is one of the provinces that has prospects for the development of the plantation sector. Plantation development in East Kalimantan is directed to increase the contribution of plantations in accelerating economic recovery such as increasing community income, expanding employment opportunities and increasing their role in improving macroeconomic indicators. Agricultural development, especially palm oil commodities, is a strategic program that is a priority for economic development for the local government of East Kalimantan.

East Kalimantan's plantation flagship commodity, palm oil, is still recorded to outperform production in 2023. The East Kalimantan Provincial Plantation Office noted that in 2023 oil palm production will be 20.71 million tons with a plant area of 1.33 million hectares. When compared to the previous year's production, this palm oil production was recorded to increase from the previous 19.12 million tons in 2022. East Kutai Regency is

still the region with the largest oil palm production in East Kalimantan in 2023, with a total production of 7.88 million tons (BPS, 2024). The plantation crop business in East Kalimantan can be divided into three, namely large government plantations, large private plantations, and people's plantations.

3.1. Environmental impact analysis

The EIA is an instrument to plan preventive actions against pollution and environmental damage that will arise from development activities. The EIA not only includes the study of biogeophysical and chemical aspects, but also socio-economic, socio-cultural, and public health aspects. Therefore, the existence of AMDAL as a means of monitoring or as a tool of control and correction of the implementation of a business activity carried out by the company or in the implementation of project operations, as well as to achieve or implement environmental protection, even to produce justice for ecology.

Aware of the potential negative impacts caused as a consequence of development, efforts to control impacts early continue to be developed. Environmental impact analysis (EIA) is one of the preventive tools for environmental management that continues to be strengthened through increasing accountability in the implementation of EIA preparation. The EIA is also one of the main requirements in obtaining an environmental permit that is absolutely owned before obtaining a business license. Another problem in the implementation of environmental management and monitoring is the weak law enforcement in our country. There are no strict sanctions imposed on entrepreneurs who do not carry out environmental management and monitoring. In the Regulation of the Minister of Environment No. 16 of 2012, the Environmental Management Plan hereinafter referred to as Environmental Management Plan is an effort to handle environmental impacts arising from business plans and/or activities and the Environmental Monitoring Plan hereinafter referred to as Environmental Monitoring Plan an effort to monitor environmental components affected by business plans and/or activities. The Environmental Management Plan—Environmental Monitoring Plan must contain efforts to address impacts and monitor the affected environmental components to the overall impact. The Environmental Management Plan contains efforts to prevent, control and overcome important environmental impacts and other negative environmental impacts and increase positive impacts that arise as a result of a business plan and/or activity.

3.2 Environmental management policy

The availability of natural resources in quantity or quality is uneven, while development activities require increasing natural resources. Development activities also contain the risk of pollution and environmental damage. This condition can result in a decrease in carrying capacity, carrying capacity, and environmental productivity which ultimately becomes a social burden. Therefore, the environment must be protected and managed properly based on the principle of state responsibility, the principle of sustainability, and the principle of justice. In addition, environmental management must be able to provide economic, social, and cultural benefits carried out based on the principles of prudence, environmental democracy, decentralization, as well as recognition and appreciation of local wisdom and environmental wisdom. Environmental protection and management requires the development of an integrated system in the form of a national policy for environmental protection and management which must be implemented in a principled and consequential manner from the central to the regions. The decline in the quality of the environment will threaten the survival of human life and other living things, namely the emergence of global warming that is increasing with climate change. Therefore, serious and consistent environmental protection and management from stakeholders are needed (Situmeang and Silvani, 2024).

A good and healthy environment is a human right of every Indonesian citizen as mandated in Article 28 point H of the 1945 Constitution of the Republic of Indonesia.

National economic development is organized based on the principles of sustainable and environmentally friendly development. If development continues without paying attention to environmental factors, the environment will be damaged and the sustainability of the development itself will be threatened. One of the important problems faced in economic development is how to deal with the trade-off between meeting development needs on the one hand and efforts to maintain environmental sustainability on the other hand (Fauzi, 2004). Economic development based on natural resources that does not pay attention to environmental sustainability aspects will ultimately have a negative impact on the environment itself, because basically natural resources and the environment have limited carrying capacity. In other words, economic development that does not pay attention to the capacity of natural resources and the environment will cause development problems in the future.

Environmental problems occur due to the unwise use and management of resources, population dynamics and the lack of control in the use of science and technology. Economic progress should provide great positive benefits, but in reality pollution and environmental damage are problems that often occur as a result of economic and development activities. According to Taufiq (2011), what needs to be considered in the realm of policies for environmental sustainability is: the emphasis on forest, water, and soil management in natural resource management, management of development impacts on the environment, and good human resource development. Therefore, in environmental policy, environmental management policy is needed as an effort to maintain or improve the quality of the environment so that basic needs can be met properly (Soemarwoto, 2014). Its success is reflected based on the ability of regions/countries to manage the environment. Changing attitudes and behaviors towards the environment can be done using the following instruments: regulation, supervision, economy, and persuasive (Zein et al., 2020).

The need for environmental protection and management is based on the declining quality of the environment that has threatened the survival of human life and other living things, so it is necessary to carry out serious and consistent environmental protection and management by all stakeholders. In addition, the increasing global warming has resulted in climate change, exacerbating the decline in environmental quality. Arifin (2015) stated that global warming arises due to activities such as ineffective energy use, changing land functions, the number of industries, the use of transportation, waste processing, and the environment that is not properly managed. Is (2020) states that the responsibility of the state is obliged to ensure legal certainty in the protection and management of the environment in the use of natural resources to provide maximum benefits for the prosperity of the current and future generations of the people and can guarantee the right of citizens to get a decent environment and to prevent environmental damage from excessive natural resource management activities.

Based on the general provisions in Law No. 32 of 2009 concerning Environmental Protection and Management, what is meant by Environmental Protection and Management is a systematic and integrated effort made to preserve environmental functions and prevent environmental pollution and/or damage which includes planning, utilization, control, maintenance, supervision, and law enforcement. Sustainable natural resource development is indispensable for the development of a region through optimal management for the long term. However, at the level of policies and rules made, there is still a lot of confusion. This is because the regulations that have been made from all circles, both from the government, companies and the community, are still not understood (Sriyanti. 2023). To achieve prosperity for the community, in managing and utilizing natural resources, the government and policy users must be aware of the importance of the policy rules that have been made, so that the use of natural resources must be balanced, harmonious and in harmony with environmental functions.

3.3 Effectiveness of the implementation of PT. T's environmental management and monitoring

3.3.1 Aspects of obedience

There are several things that are included in the aspect of compliance in this study, namely increased erosion rate, loss of land cover vegetation, surface water quality, air pollution control and noise intensity; management of Hazardous and Toxic Waste (B3). The following are the results of research and analysis of compliance aspects (Table 1).

Table 1. Result and data analysis of compliance aspects

Research Aspects	Criterion	Sub Criteria	Score	PT. T Score
Increased erosion rate	Technical and SOP Compliance	In accordance with SOP	2	2
		TPG/ENV/006.08 Management of River, Lake and Spring Boundaries		
		Partially compliant	1	
Loss of land cover vegetation	Technical and SOP Compliance	Not all fit	0	2
		In accordance with SOP	2	
		TPG/STB/013 Identification and Management of Conservation Areas		
Deterioration of surface water quality	Technical and SOP Compliance	Partially compliant	1	2
		Not all fit	0	
		In accordance with SOP	2	
Air pollution control	Quality Standards	TPG/ENV/006.08 Management of River, Lake and Spring Boundaries		2
		Partially compliant	1	
		Not all fit	0	
	Monitoring	All parameters are in accordance with quality standards	2	1
		There are parameters that exceed quality standards	1	
		All parameters exceed quality standards	0	
	Compliance with Technical Provisions	Regular monitoring every month	2	1
		Monitoring per year/per semester	1	
		Not monitoring	0	
	Reporting	Comply with all technical rules	2	2
		Not complying with all technical rules	1	
		Not complying with all technical rules	0	
	Noise intensity	Quarterly routine reports	2	1
		Regular report every semester	1	
		Report once a year or not report	0	
Noise intensity	Quality Standards	All parameters are in accordance with quality standards	2	1
		There are parameters that exceed quality standards	1	
		All parameters exceed quality standards	0	
	Monitoring	Regular monitoring every month	2	1
		Monitoring every semester or per year	1	
		Not monitoring	0	
	Compliance with Technical Provisions	Comply with all technical rules	2	2
		Not complying with all technical rules	1	
		Not complying with all technical rules	0	

B3 Waste Management	Reporting	Quarterly routine reports	2	1
		Regular reports every semester	1	
		Report once a year or not report	0	
	Compliance with Technical Conditions for Storage	There are SOPs and TPS in accordance with the technical provisions of storage	2	2
		There are SOPs and TPS, but some have not met technical standards	1	
		There are no SOPs and polling stations, or there are polling stations but all have not met technical standards	0	
	LB3 Type and Volume Logging	All records are done	2	2
		Recording is only partially done	1	
		Absolutely no recording has been done	0	
Transportation by Third Parties	It is carried out if there is a letter of cooperation with a third party that has been registered with the Ministry of Environment and Forestry	2	2	
	Carried out with a third-party cooperation letter that has not been registered with the Ministry of Environment and Forestry	1		
	No letter of cooperation in the transportation of B3 Waste	0		
Licensing	Reporting	Regular quarterly or semester reports	2	2
		Non-routine/annual reports	1	
		Not reporting	0	
	Liquid Waste Disposal Permit	Have a PLC license still in active period	2	2
		Permissions in progress	1	
		Not having a permit	0	
	TPS B3 & LB3 Permits	Have a B3 Waste TPS permit that is still in active life	2	2
		Permissions in progress	1	
		Not having a permit	0	
	Letter of cooperation with a third party	Have a cooperation agreement letter that is still in active period	2	2
		Agreement letter in process	1	
		Do not have a cooperation agreement letter	0	
	Total Score			30
	Maximum Total Score			40
	% Compliance Score			75

Based on the results of observations and interviews regarding the aspects of compliance, it has met the criteria for air control, noise, erosion, water quality, B3 waste management, and loss of land cover vegetation, both in terms of administrative fulfillment, quality standards, technical criteria to reporting.

3.3.2 Institutional aspects

For the institutional structure, PT. T already has an institutional structure in environmental management that is complete and has been running in accordance with its duties and functions. Meanwhile, the human resource capacity building program is carried out continuously every year through education and technical training, especially in environmental management. The assessment of institutional aspects can be seen in Table 2.

Competency development needs to be designed according to needs, the development of human resources has partly been made by the Center for Education and Training of Human Resources for Environment and Forestry (Gamin, 2023).

Table 2. Result of institutional aspect analysis

Research Aspects	Criterion	Sub Criteria	Score	PT. T Score		
Institutional structure	Department/ Organizational Structure	Have a special department/section in the field of environment with clear main tasks and functions	2	2		
		Have an institution in general environmental management that is still integrated with other departments	1			
		Does not have an environmental institution/department	0			
	Number of environmental management personnel	>2 members in each field of work	2	2		
		1-2 members in each field of work	1			
		Member concurrently in the field of work	0			
	HR	Bachelor's > the remaining 75% is D3	2	1		
	Qualifications	Bachelors 40-75% of the total members	1			
		Bachelors <40% of the total number of members.	0			
Coordination and communication	Internal	Coordination and communication are always carried out clearly, straightforwardly and firmly in accordance with the organizational structure that exists in every environmental management activity program	2	2		
		Clear, straightforward and firm coordination and communication have not been fully implemented in implementing environmental management programs	1			
		There is no clear, straightforward and unequivocal coordination and communication	0			
	External	Always carry out good coordination and communication with the government, the community and related NGOs in environmental management and monitoring	2	2		
		Coordination and communication with the government, the community and related NGOs	1			
		There is no coordination and communication with the government, the community and related NGOs	0			
		Institutional capacity building	Education and training	Conduct training every year	2	2
				Conduct training every 2 years	1	
Conduct >2-year training	0					
Total Score				11		
Maximum Number of Scores				12		
Percentage (%) Score				91.7		

3.3.3 Supervision aspect

The form of internal supervision carried out by PT. T can be in the form of daily, weekly or monthly monitoring. Meanwhile, this external supervision process is carried out routinely by the Regional Government of East Kutai Regency (Environmental Agency). The results of the analysis of internal and external supervision aspects can be seen in Table 3.

Table 3. Result of supervision

Research Aspects	Criterion	Sub Criteria	Score	PT. T Score
Intensity and form of supervision	Frequency of surveillance	It is routinely carried out every 3 months from external parties by the government and routinely every month from internal parties by PT. T supervisors	2	1
		Supervision by the government is not routinely carried out once a year while PT. T's supervision is routine every month	1	
		There is no supervision from the government and PT. T itself	0	
	Forms of supervision	Routine and non-routine	2	2
		Only at any time	1	
		None	0	
Supervision process	Supervision process	Overall environmental management process	2	2
		Not comprehensive/part of the environmental management process	1	
		Not done at all	0	
Surveillance output	Output	Always listed in the minutes of supervision/supervision report	2	2
		Some of it is written and some of it is not	1	
		Not written at all	0	
	Follow-up	Always follow up to improve the environmental management process	2	2
		Rarely followed up	1	
		No follow-up	0	
TBSP	Supervisory Personnel	All supervisors/ <i>superintendents</i> are qualified supervisors	2	2
		Only some of them are qualified	1	
		Most are not yet qualified	0	
Funding	Budget	Have a budget that has the same priority as other programs such as <i>Corporate Social Responsibility</i> (CSR) and others.	2	2
		Have a budget but with low priority	1	
		Don't have a budget.	0	
Total Score				13
Maximum Number of Scores				14
Percentage (%) Score				92.9

From the results of the analysis in this study, the percentage value for the compliance aspect was 75%, and the institutional aspect was 91.7%, while the supervision aspect was 92.9%. The criteria for the compliance aspect of the implementation of environmental management and monitoring at PT. T, if included in the existing effectiveness criteria, the implementation of PT. T's RKL-RPL can be said to be effective, but there are several notes.

3.4 Evaluation of effectiveness and factors affecting the implementation of RKL-RPL

From the results of the evaluation in this study, it was obtained that juridically the formal PT. T has implemented the Environmental Impact Analysis/*Analisis Dampak*

Lingkungan (AMDAL) effectively in accordance with the regulations and provisions regarding Environmental Impact Analysis/*Analisis Dampak Lingkungan* (AMDAL) and Environmental Permits that have been stipulated in the Regulation of the Minister of Environment Number 5 of the Year. The effectiveness of the implementation of a rule or policy regarding the EIA of PT. T's oil palm plantations is influenced by 4 (four) main factors, namely: communication, resources, disposition and bureaucratic structure in the theory put forward Rahmani (2021) which tests the implementation of policies in a government institution.

3.4.1 Communication

Communication factors include: transmission, consistency and clarity. According to Heliga et al., 2022, the first requirement for effective policy implementation is that those who implement decisions must know what they should do. Policy decisions and orders must be forwarded to the appropriate personnel accompanied by clear instructions so that implementers on the ground do not experience confusion about what they should do. In addition, the implementation orders must be consistent and clear. PT. T has done this well. This process of understanding can occur if a communication can be established properly, as is the case in research Susanto & Effendi (2019) which states that an understanding in the activities of oil palm plantation companies in PT. T can occur if there is communication between individuals and groups.

3.4.2 Resources (staff, skills, information, authority, and facilities)

Edward (1980) in his theory stated that the availability of resources is very important for the effective implementation of policies. Research by Nurhaeni et al. (2011) stated that without the availability of adequate resources, the policies that have been formulated will only become plans and never be realized. PT. T has a number of staff and employees who possess competencies according to their respective positions and duties, and these members are selected through a qualification-based selection process. According to Sudiantini et al. (2023), competencies include knowledge, skills, abilities, or characteristics associated with good job performance and are measurable work habits and personal skills used to achieve job goals. To improve staff capabilities, PT. T conducts regular and continuous training because an increase in staff numbers alone is not enough; rather, it requires an adequate number of skilled staff who are competent in implementing policies and carrying out assigned tasks. Furthermore, Mehner et al. (2024) emphasized that training is crucial for developing employee competencies and enhancing organizational performance. However, for training to be effective, the newly acquired knowledge must be applied and shared within the organization.

According to Rahmi & Nugroho (2017), information policy encompasses laws, regulations, and policies that encourage, prohibit, or regulate the creation, use, storage, and dissemination of information. In the implementation of Environmental Impact Analysis/*Analisis Dampak Lingkungan* (AMDAL), PT. T ensures that information is effectively shared with the field staff through orders and coordination. Compliance data regarding government rules and regulations must be established, and the implementing staff must be aware of whether all parties involved in the policy implementation are complying with the law. The tangible form of information delivery includes internal and external supervision, where internal supervision is carried out intensively through command and coordination channels, and external supervision is conducted by the East Kutai Regency Environmental Service twice a year. This intensive and periodic monitoring contributes to the effective implementation of PT. T's oil palm plantation Environmental Impact Assessment (EIA), particularly in ensuring compliance with environmental management policies.

Authority is the ability to act granted by laws and regulations to carry out legal relations (Hidjaz, 2010). In principle, authority refers to the power to perform legal acts, and it is

formally structured to establish strong legitimacy in executing orders. PT. T realizes this by forming a clear institutional structure for environmental management, particularly in the Environmental Management Plan—Environmental Monitoring Plan within the Environmental Impact Analysis/*Analisis Dampak Lingkungan* (AMDAL) framework, with defined duties and functions. Furthermore, facilities play an essential role in ensuring smooth operations within the company. According to Srijani & Hidayat (2017), facilities make work easier and more efficient, thereby improving service quality. The scale of a company's operations determines the extent and quality of its facilities, which directly impact employee productivity and efficiency. Ilihelu et al. (2024) stated that work quality depends on task completion, implementation methods, and costs incurred. In this regard, PT. T ensures that employees have the competence and authority to perform their duties, but without adequate supporting infrastructure, the successful implementation of policies would be impossible. Therefore, it is crucial for companies to invest in high-quality facilities and infrastructure to support daily operations and overall company performance.

3.4.3 *Disposition (support of implementers)*

PT. T responds to the environmental management policy set by the Government, therefore the policy information is then transmitted to all staff and personnel of PT. T. This then encourages the formulation of better internal environmental management policies in the form of SOPs as guidelines for the implementation of daily policies in accordance with applicable technical rules. PT. T's compliance with quality standards has been well achieved, as evidenced by the results of laboratory analysis that meet quality standards. This also applies to the management of other aspects listed in the RKL-RPL document.

The intensive and disintensive provision carried out by PT. T is in line with that proposed by Norjanah et al. (2024) which states that one of the suggested techniques to overcome the problem of tendency in implementers is to manipulate incentives. Therefore, in general, people act according to their own interests, so the manipulation of incentives is carried out by policymakers. By adding certain profits or costs, it may be a supporting factor that makes policy implementers carry out orders well. This is done as an effort to fulfill personal or organizational interests.

3.4.4 *Institution and organizational structure*

Institutions are rules of the game that play an important role in distributing resources efficiently, fairly, and sustainably (Aliim & Darwis, 2023). Meanwhile, the organizational structure is a set of responsibilities and duties that exist on each individual and group that contains all the planning, implementation and supervision of an activity to achieve the goals of an organization (Kuraesin 2016). PT. T already has a clear institutional structure in environmental management by dividing authority to carry out duties, implementing members and Standard Operating Procedures (SOPs).

3.5 *Work grade assessment*

One of the government's efforts to supervise and protect the environment is through the Company Performance Rating Assessment Program in Environmental Management (PROPER). PROPER is the flagship program of the Ministry of Environment and Forestry to encourage industry compliance with environmental regulations, and its implementation has been regulated in the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 1 of 2021 concerning the Company Performance Rating Assessment Program in Environmental Management. Additionally, the guidelines used for the implementation of PROPER assessment in the regions are regulated in the Governor of East Kalimantan Regulation Number 01 of 2009, which concerns the Guidelines for the Implementation of the Assessment of the HPH/IUPHHK Company Performance Rating Program, HPHTI/IUPHHK-HT, and Plantations on Environmental Management. Based on

the 2023 PROPER Publication, the PROPER rating is assigned with different colors, where each color represents a specific meaning.

The "Gold" rating signifies consistent environmental excellence in production and service processes, as well as the implementation of ethical and responsible business practices towards the community. The "Green" rating indicates that a company goes beyond compliance by implementing an environmental management system, utilizing resources efficiently, and fulfilling social responsibilities. The "Blue" rating represents compliance with environmental regulations, while the "Red" rating indicates that a company attempts environmental management but does not fully meet legal requirements. The "Black" rating is given to companies that intentionally cause pollution or environmental damage, violate laws and regulations, or fail to implement administrative sanctions. In this regard, PT. T has been recognized for its environmental management efforts and has been awarded the "Green" PROPER rating by the Governor of East Kalimantan for the period 2023–2024.

4. Conclusions

PT. T's oil palm plantation Environmental Management Plan—Environmental Monitoring Plan in its implementation in a formal juridical manner has been running effectively. This happens because of the intensive communication and coordination process both internally and externally; especially in sending information on government regulations and policies, standard operating procedures (SOPs), and several matters directly related to the implementation of environmental management policies. Human Resources, in this case, staff who have expertise in their fields. The provision of clear authority and the provision of adequate facilities in environmental management. There is support provided by implementers or dispositions, especially in matters such as environmental management regulations and policies both provided by the government and from PT. T himself is clear and unequivocal; as well as support in providing funds and budgets needed in environmental management, as well as providing clear and firm incentives and disincentives in the implementation of environmental management policies. An institutional organizational structure with clear authority that has SOPs in every day of activities in the field.

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Author Contribution

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