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Author : Catur Adityo Nugroho, et al
DOI : 10.32734/lwsa.v9i2.2811
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 9 Issue 2 – 2026 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)



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Strategy for The Rejuvenation of Smallholder Oil Palm Plantations Through Enhancing Partnerships Between KUD Plasma (Case Study of PTPN IV Regional I)

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Abstrak

Program Peremajaan Sawit Rakyat (PSR) merupakan inisiatif strategis pemerintah untuk meningkatkan produktivitas dan keberlanjutan industri kelapa sawit nasional. Namun dalam pelaksanaannya, PSR masih menghadapi berbagai tantangan, terutama di tingkat petani plasma dan koperasi. Penelitian ini bertujuan untuk merumuskan strategi percepatan pelaksanaan PSR melalui peningkatan kemitraan antara KUD Plasma dan PTPN Regional I. Metode yang digunakan adalah pendekatan deskriptif kualitatif dengan analisis SWOT (Strength, Weaknesses, Opportunities, Threats) untuk mengidentifikasi faktor internal dan eksternal yang memengaruhi pelaksanaan PSR. Selanjutnya, perumusan strategi dilakukan menggunakan Matriks SWOT dan pemeringkatan alternatif strategi dilakukan melalui Matriks Perencanaan Strategis Kuantitatif (QSPM). Hasil penelitian menunjukkan bahwa strategi prioritas dalam mempercepat pelaksanaan PSR adalah meningkatkan kapasitas dan kompetensi internal SDM PTPN IV, menjalin kemitraan dengan stakeholder seperti asosiasi petani, meningkatkan dukungan teknis melalui KUD, serta mengembangkan sistem digitalisasi informasi bagi petani plasma. Validasi strategi menunjukkan bahwa rancangan yang dihasilkan layak, dapat diterapkan, dan berdampak positif terhadap efisiensi operasional, kepuasan stakeholder, serta keberlanjutan program dalam jangka panjang. Penelitian ini diharapkan menjadi masukan strategis bagi manajemen PTPN IV dan instansi terkait dalam menyusun kebijakan PSR yang lebih partisipatif, terintegrasi, dan berorientasi keberlanjutan.

Kata Kunci: Strategi; Peremajaan Sawit Rakyat; Kemitraan PTPN IV – KUD Plasma; SWOT; QSPM

Abstract

The Smallholder Oil Palm Rejuvenation Program (PSR) is a strategic government initiative aimed at enhancing productivity and sustainability in the national oil palm industry. However, in its implementation, the PSR still faces various challenges, particularly at the level of plasma farmers and cooperatives. This study aims to formulate strategies to accelerate the implementation of PSR through enhanced partnerships between Plasma Cooperatives and PTPN IV Regional I. The method used is a qualitative descriptive approach with SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) to identify internal and external factors influencing PSR implementation. Furthermore, the formulation of strategies was conducted using the SWOT Matrix, and the ranking of alternative strategies was carried out through the Quantitative Strategic Planning Matrix (QSPM). The research results indicate that the priority strategies for accelerating the implementation of PSR are to enhance the capacity and competencies of PTPN IV's human resources, establish partnerships with stakeholders such as farmer associations, increase technical support through KUD, and develop a digital information system for plasma farmers. Strategy validation indicates that the resulting design is feasible, implementable, and has a positive impact on operational efficiency, stakeholder satisfaction, and the sustainability of the program in the long term. This study is expected to provide strategic input for PTPN IV management and related agencies in formulating more participatory, integrated, and sustainability-oriented PSR policies.

Keywords: Strategy; Smallholder Oil Palm Rejuvenation; PTPN IV – Plasma Cooperative Partnership; SWOT; QSPM

1. Introduction

Palm oil plantations are a strategic sector that contributes significantly to Indonesia's foreign exchange and community welfare. However, the industry faces a serious challenge as many smallholder plantations are aging, resulting in low productivity averaging

only 12–15 tons of FFB/ha/year, far below the potential 25–30 tons/ha/year. This condition highlights the urgency of implementing an effective Smallholder Palm Oil Replanting Program (PSR).

PTPN IV, as a state-owned plantation company, plays a strategic role in supporting PSR through partnerships with plasma cooperatives (KUD). In 2024, PTPN IV Regional I exceeded its PSR target of 500 hectares by achieving 744.93 hectares. Despite this achievement, challenges remain, including land legality, limited farmer capital, inadequate access to technology, weak farmer institutions, and poor stakeholder coordination. The government has allocated more than IDR 9.66 trillion for PSR up to 2024, yet fund absorption remains low, indicating structural barriers in implementation.

Plasma cooperatives also face specific issues such as limited working capital, weak managerial and technical capacity, poor seed quality, weak marketing systems, and insufficient coordination with PTPN IV. Therefore, this study is essential to formulate more effective strategies for PSR by optimizing the role of plasma cooperatives as PTPN IV's partners.

The main problem is the slow realization of PSR targets in North Sumatra, influenced by farmer perceptions, internal and external constraints, and the absence of effective acceleration strategies. The research focuses on PTPN IV's efforts to accelerate PSR through partnerships, the internal and external challenges encountered, and the strategies that can enhance the effectiveness of plasma cooperatives.

The objectives are to analyze the current implementation of PSR, identify internal and external factors using a SWOT approach, and formulate sustainable strategies to strengthen the partnership between PTPN IV and plasma cooperatives.

This study focuses on the implementation of PSR strategies through partnerships between PTPN IV Regional I and plasma cooperatives, assuming that the partnership scheme remains active and BPDPKS replanting grant funds continue as the main financing source.

2. Research Methods

This study applies a descriptive method with a qualitative approach combined with SWOT analysis. The qualitative approach is chosen to gain an in-depth understanding of the partnership process and strategies between PTPN IV Regional I and KUD Plasma in the PSR program, while SWOT is used to evaluate internal (strengths and weaknesses) and external (opportunities and threats) factors in order to formulate sustainable strategies.

Primary data were collected through interviews, observations, and direct interactions with PTPN IV management, KUD Plasma leaders, and smallholder farmers. Secondary data came from annual reports, PSR program documents, academic literature, and other relevant publications. Data collection methods included in-depth interviews, participatory observations in the field, and documentation studies related to program realization, partnership structures, and productivity.

The analysis was carried out in four stages: (1) Internal Factor Evaluation (IFE) to identify strengths and weaknesses; (2) External Factor Evaluation (EFE) to assess opportunities and threats; (3) SWOT matrix to combine internal and external factors into SO, WO, ST, and WT strategies; and (4) Quantitative Strategic Planning Matrix (QSPM) to select the most suitable strategy based on the Total Attractiveness Score (TAS).

This research design was developed to address the challenges faced by PTPN IV Regional I in implementing the Smallholder Oil Palm Replanting Program (PSR) through partnerships with KUD Plasma. A SWOT approach was applied to formulate strategies based on internal and external conditions, aiming to strengthen partnerships, improve program effectiveness, and promote sustainability for smallholders.

The framework combines internal analysis using the McKinsey 7S model (structure, system, leadership style, staff, strategy, skills, and shared values) and external analysis using the PESTHEL framework (political, economic, social, technological, environmental, legal, and health). The results are mapped through SWOT, the Internal-External (IE) Matrix, and the Quantitative Strategic Planning Matrix (QSPM).

3. Results and Discussion

The proposed design produces integrated strategies combining SO, ST, WO, and WT approaches to build a more comprehensive PSR program. The IFE and EFE matrices identify strengths, weaknesses, opportunities, and threats, which are then synthesized into the SWOT matrix. Finally, QSPM is used to quantitatively evaluate alternatives and determine the most effective strategy for implementation.

3.1 Internal Factor Evaluation (IFE) Analysis

In formulating the strategy for the Palm Oil Replanting Program (PSR) through KUD Plasma partnerships at PTPN IV Regional I, an internal factor analysis was conducted using the IFAS matrix. The evaluation of organizational strengths and weaknesses resulted in a total score of 2.20 out of 4, indicating a fairly strong internal position with significant potential to support the success of PSR through KUD Plasma partnerships.

Table 1. Internal Factor Evaluation (IFE)

No	Internal Factors	Weight	Rating	Score	Rank
Strength					
1	Experience and capacity of PTPN IV in palm oil replanting programs	0,13	2,57	0,33	2
2	Technical support from PTPN IV for plasma cooperatives (KUD) and plasma farmers	0,14	2,86	0,39	1
3	Availability of smallholders land with potential for replanting	0,08	2,00	0,19	3
4	Availability of certified high-quality seedlings for the PSR program	0,12	1,86	0,18	4
5	Internal and external coordination of PTPN IV in the PSR program	0,09	2,00	0,18	4
Subtotal		0,56	11,29	1,27	
Weakness					
6	Weak managerial capacity of plasma cooperatives (KUD)	0,10	2,29	0,24	2
7	Low human resources competency in farmer assistance	0,09	1,86	0,18	3
8	Low farmers understanding of the PSR program	0,12	3,00	0,37	1
9	Limited human resources in evaluation and assistance	0,06	1,00	0,06	5
10	Lack of synergy with stakeholders in palm oil smallholder sector	0,07	1,14	0,08	4
Subtotal		0,44	9,29	0,93	
Total		1,00	20,58	2,20	

The SWOT analysis shows that PTPN IV's internal strengths carry a total weight of 0.56 with a weighted score of 1.27, indicating a relatively strong position in implementing the PSR program through partnerships with KUD Plasma. The main strength is PTPN IV's technical support (0.14; 0.39), supported by extensive experience in replanting (0.13; 0.33) and the availability of potential smallholder land (0.10; 0.19). Other factors, such as certified seedlings and internal-external coordination, also support the program though they require further strengthening.

On the other hand, weaknesses carry a total weight of 0.44 with a weighted score of 0.93. The most significant issue is farmers' limited understanding of PSR (0.12; 0.37), followed by weak KUD managerial capacity (0.10; 0.24) and low competency of extension staff (0.09; 0.18). Limited stakeholder synergy and insufficient human resources also add challenges, albeit to a lesser extent.

With a total weighted score of 2.20 (above the average of 2.0), PTPN IV holds a fairly strong internal base. However, the small gap between strengths (1.27) and weaknesses (0.93) highlights the need for simultaneous optimization and mitigation. Recommended strategies include farmer education and outreach through training and farmer field schools, strengthening KUD managerial capacity via structured capacity building, improving human resources through training of trainers programs, and establishing regular coordination forums with stakeholders.

This approach aligns with findings that technical efficiency is strongly influenced by education, age, planting systems, seed quality, extension services, and plasma farmer involvement. With strong technical support and proven experience, PTPN IV has significant opportunities to implement a sustainable PSR program that is both commercially viable and beneficial for smallholder welfare.

3.2 External Factor Evaluation (EFE) Analysis

To formulate the PSR strategy through strengthening KUD Plasma partnerships at PTPN IV Regional I, an external factor analysis using the EFAS Matrix was conducted. The results show a total score of 2.34 out of 4, indicating that external opportunities outweigh threats. This condition provides strategic space for PTPN IV to enhance partnerships and improve the effectiveness of the PSR program.

Table 2. External Factor Evaluation (EFE)

No	Internal Factors	Weight	Rating	Score	Rank
Opportunity					
1	Grant funding and replanting assistance from BPDP	0,13	2,86	0,38	2
2	Government policy support for PSR	0,13	3,00	0,40	1
3	CPO market demand	0,09	2,14	0,20	4
4	Farmers are interested in replanting their land	0,10	2,29	0,22	3
5	Collaboration with stakeholders/farmer associations	0,09	2,00	0,17	5
Subtotal		0,54	12,29	1,37	
Threat					
6	Fluctuation of FFB prices	0,10	2,29	0,22	2
7	Force majeure (disaster/climate/pandemic)	0,09	2,00	0,18	3
8	Bureaucratic regulations slow PSR disbursement	0,13	3,00	0,38	1
9	Digital gap between PTPN IV and farmers	0,07	1,43	0,10	4
10	Farmers dependence on palm oil	0,07	1,29	0,09	5
Subtotal		0,46	10,01	0,97	
Total		1,00	22,30	2,34	

The EFAS analysis shows that government policy support carries the highest weight (0.13; score 0.40), serving as a key driver for PSR success by creating a conducive business climate and legal certainty. The availability of BPDP funds (0.13; score 0.38) is equally crucial in addressing farmers’ capital constraints. Farmers’ interest in replanting (0.10; score 0.22) is positive but requires further awareness efforts. Market demand for CPO (0.09; score 0.20) and stakeholder collaboration (0.09; score 0.17) provide supportive, though not yet optimal, factors.

Major threats include bureaucratic complexity (0.13; score 0.38), which delays fund disbursement, fluctuating FFB prices (0.10; score 0.22), and force majeure risks (0.09; score 0.18). Digital gaps (0.07; score 0.10) and farmers’ dependency on palm oil (0.07; score 0.09) pose long-term vulnerabilities.

With an EFAS score of 2.34, the external environment is relatively favorable. PTPN IV must leverage government and financial support while mitigating threats from bureaucracy, price volatility, and external shocks.

3.3 SWOT Analysis

Based on the results of the IFE and EFE analysis, the smallholder oil palm replanting strategy through KUD Plasma partnerships at PTPN IV Regional I is positioned at coordinates (0,34; 0,40), placing the organization in Quadrant I (Strength-Opportunity) of the SWOT matrix.

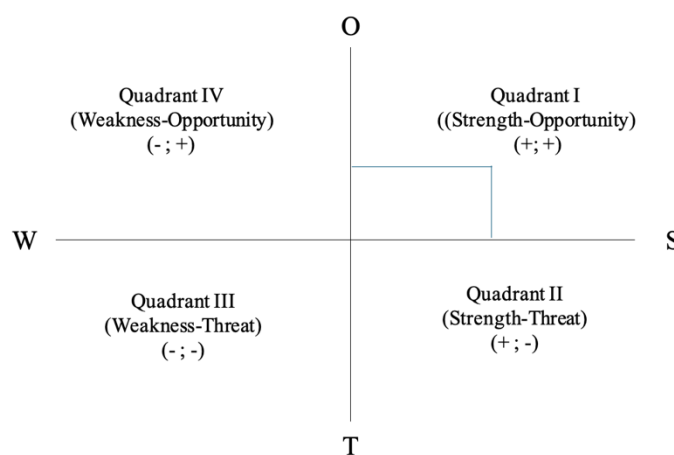


Figure 1. SWOT Matrix

The strategic position in Quadrant I indicates strong potential for developing a sustainable PSR partnership program. By leveraging internal strengths and aligning with external opportunities such as policy support and grant funding, the success of the replanting

program can be significantly enhanced.

IFA EFA	Strength	Weakness
	1 Experience and capacity of PTPN IV in palm oil replanting programs 2 Technical support from PTPN IV for plasma cooperatives (KUD) and plasma farmers 3 Availability of smallholders land with potential for replanting 4 Availability of certified high-quality seedlings for the PSR program 5 Internal and external coordination of PTPN IV in the PSR program	1 Weak managerial capacity of plasma cooperatives (KUD) 2 Low human resources competency in farmer assistance 3 Low farmers' understanding of the PSR program 4 Limited human resources in evaluation and assistance 5 Lack of synergy with stakeholders in the palm oil smallholder sector
Opportunity	S - O Strategy	W - O Strategy
1 Grant funding and replanting assistance from BPDP 2 Government policy support for CPO market demand 3 CPO market demand 4 Farmers are interested in replanting their land 5 Collaboration with stakeholders/farmer associations	1 Optimizing the role of PTPN IV in assisting the Palm Oil Replanting Program (PSR) (S1, S5, O1, O3) 2 Enhancing internal capacity and competencies of PTPN IV human resources (S2, S4, O2, O5)	1 Improving technical support for farmers through cooperatives (KUD) (W1, W5, O4, O5) 2 Establishing partnerships with stakeholders such as farmer associations (S5, S2, O5, O1)
Threat	S - T Strategy	W - T Strategy
1 Fluctuation of FFB prices 2 Force majeure (disaster/climate/pandemic) 3 Bureaucratic regulations slow PSR disbursement 4 Digital gap between PTPN IV and farmers 5 Farmers dependence on palm oil	1 Strengthening PTPN IV 's internal coordination in PSR implementation (S1, S2, S3, T4, T5) 2 Mitigating the impact of fresh fruit bunch (FFB) price fluctuations through partnership contracts (S4, S5, T1, T2, T3)	1 Increasing farmers literacy on the benefits of the PSR program (W4, T1, T2, T3) 2 Simplifying regulations and bureaucratic process for PSR funding disbursement (W1, W3, T1, T4)

Figure 2. SWOT Analysis

SO Strategies maximize internal strengths to capture external opportunities. First, optimize PTPN IV's role as the main facilitator of PSR by leveraging its experience, technical capacity, and coordination to access BPDP funding and meet CPO demand. Second, enhance human resource competencies through structured capacity-building programs to better utilize government support and foster collaboration with stakeholders.

WO Strategies address internal weaknesses by leveraging external opportunities. First, strengthen plasma cooperatives (KUD) through training in management, modern cultivation, and reporting systems to effectively bridge PTPN IV and farmers. Second, build partnerships with farmer associations to expand outreach, joint education, and effective communication for PSR dissemination.

ST Strategies use internal strengths to counter external threats. First, strengthen internal coordination by forming a dedicated PSR task force to address digital gaps and farmer dependency on palm oil. Second, develop long-term partnership contracts with guaranteed pricing, agricultural insurance, and risk-sharing mechanisms to mitigate fresh fruit bunch (FFB) price fluctuations and force majeure risks.

WT Strategies are defensive, aiming to minimize weaknesses and avoid threats. First, advocate for simplified PSR fund disbursement procedures with PTPN IV acting as a facilitator for farmers. Second, improve farmer literacy through field schools, demo plots, and simple digital tools to raise awareness of PSR benefits, risk management, and income diversification.

3.4 QSP (Quantitative Strategic Planning) Matrix Analysis

The QSP matrix is used to prioritize strategies based on the total weighted scores of alternatives generated from the SWOT analysis. Assessment considers the importance and effectiveness of each strategy in supporting the palm oil replanting program (PSR) through KUD Plasma partnerships at PTPN IV Regional I. The strategy with the highest score is selected as the top priority to ensure the program's success. QSPM helps identify the most attractive and feasible alternatives for implementation.

Table 3. Priority Strategy for Accelerating PSR at PTPN IV Regional I

No	Strategic Priority	Total Score
1	Optimizing the role of PTPN IV in assisting the Palm Oil Replanting Program (PSR)	4,16
2	Strengthening technical support for farmers through cooperatives (KUD)	5,00
3	Establishing partnerships with stakeholders such as farmer associations	7,32
4	Enhancing internal capacity and competencies of PTPN IV human resources	9,52
5	Strengthening PTPN IV internal coordination in PSR implementation	4,06
6	Simplifying regulations and bureaucratic procedures for PSR fund disbursement	3,34
7	Improving farmers' literacy on the benefits of the PSR program	4,63
8	Mitigating the impact of fresh fruit bunch (FFB) price fluctuations through partnership contracts	4,66

The QSPM analysis highlights eight strategic priorities. The top priority is enhancing the capacity and competence of internal human resources (score 9.52), as the quality of technical, managerial, and social support strongly determines PSR success. The second priority is strengthening partnerships with external stakeholders such as farmer associations (7.32), followed by providing stronger technical support through cooperatives (5.00). Mitigating the impact of fresh fruit bunch (FFB) price fluctuations through partnership contracts ranks next (4.66).

Other relevant strategies include improving farmer literacy about PSR (4.63), optimizing PTPN IV's role in farmer assistance (4.16), reinforcing internal coordination across divisions (4.06), and simplifying regulations and bureaucracy in PSR fund disbursement (3.34).

Together, these strategies emphasize human resource development, external collaboration, technical support, and regulatory efficiency. Their implementation is expected to accelerate the replanting program effectively, inclusively, and sustainably.

3.5 Result Validation

The validation process aims to ensure that the formulated strategies for smallholder oil palm replanting are feasible for implementation in PTPN IV Regional I through partnerships with KUD Plasma. QSPM evaluation shows the highest priorities are strengthening internal HR capacity (9.52), building partnerships with stakeholders such as farmer associations (7.32), and enhancing technical support through KUD (5.00). Focusing on HR development and institutional synergy is considered the most strategic approach.

Field observations confirm that limited farmer technical capacity and weak cooperative support are the main obstacles. Therefore, strategies emphasizing HR strengthening at both internal and external levels are valid, relevant, and feasible to implement, aligning with organizational needs and national strategic policies.

4. Conclusion

Based on the SWOT and QSPM analyses, the study concludes :

- The PSR program at PTPN IV Regional I demonstrates strong commitment to national policy but faces challenges such as limited KUD capacity, low farmer participation, bureaucratic hurdles in fund disbursement, and insufficient technical support.
- Key strengths include technical expertise and long experience in plasma partnership management, while weaknesses lie in internal coordination, lack of digitalization, and limited HR capacity.
- External opportunities are driven by large replanting potential and BPDP support, whereas threats include FFB price fluctuations, farmer resistance, and low PSR literacy.
- Priority strategies are strengthening HR capacity, enhancing partnerships with stakeholders, providing continuous technical support through KUD, simplifying bureaucracy, and advancing digitalization.
- These strategies are practical and sustainable, expected to strengthen PTPN IV–KUD Plasma partnerships, improve efficiency and stakeholder satisfaction, ensure farmer income sustainability, and support national replanting targets.

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