INTERNATIONAL JOURNAL OF SOCIAL SCIENCE, EDUCATIONAL, ECONOMICS, AGRICULTURE RESEARCH AND TECHNOLOGY (IJSET) | ISSN (E): 2827-766X
Website: https://ijset.org/ | Volumes 5 No. 8 (2026)

STRATEGY HUMAN RESOURCE DEVELOPMENT (SOURCE POWER HUMAN) TO IMPROVE FARMERS' WELFARE PALM OIL IN GUNUNG MERIAH DISTRICT, DELI SERDANG REGENCY

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Received: 02/06/2026 | **Revised** : 11/06/2026 | **Accepted:** 23/06/2026 | **Published** :04/07/2026

Abstract

This study aims to analyze the quality of human resources (HR) among oil palm farmers, identify factors that hinder HR development, formulate effective HR development strategies, and analyze their impact on improving farmer welfare in Gunung Meriah District, Deli Serdang Regency. The study used a descriptive method with a qualitative approach. The research location was determined purposively in Gunung Meriah District with 69 farmers selected using simple random sampling technique from a population of 221 farmers. Data were collected through semi-structured interviews, field observations, documentation, and literature studies. Data analysis was conducted using a SWOT analysis using the IFAS, EFAS, and SWOT matrices. The results showed that the quality of farmers' HR is still relatively low, characterized by minimal access to training and extension, low technical cultivation skills, and dependence on informal information sources. The main obstacles to HR development come from limited capital and technical knowledge, as well as external factors such as the unavailability of extension programs, poor road infrastructure, and weak farmer institutions. The SWOT analysis places farmer human resource development in Quadrant I (aggressive strategy), indicating significant strengths and opportunities to be exploited. Recommended priority strategies include increasing Good Agricultural Practices (GAP)-based extension services, strengthening farmer groups and cooperatives, expanding access to capital, utilizing information technology, and improving supporting infrastructure. Planned and sustainable human resource development is a key factor in increasing the productivity, competitiveness, and welfare of oil palm farmers in Gunung Meriah District.

Keywords : human resources, oil palm farmers, farmer welfare, development strategy, SWOT.

INTRODUCTION

Palm oil agribusiness development is a crucial component of the plantation subsector in Indonesia. Palm oil plantations are managed not only by private and state-owned companies, but also by smallholder plantations, which significantly contribute to the national plantation area. Data shows that the private sector controls approximately 53% of national oil palm plantations, smallholder plantations 42%, and state-owned enterprises around 5%. Therefore, smallholder plantations are a crucial pillar of the Indonesian palm oil industry (Eliaser, 2018). Although Indonesia is the world's largest palm oil producer, the development of smallholder oil palm plantations still faces various obstacles, particularly the low quality of human resources (HR) among farmers. Limited knowledge, skills, and managerial abilities result in suboptimal farm productivity and hamper farmers' competitiveness in the face of developments in the modern plantation sector (Eliaser, 2018; Dirmansyah, 2020). Yet, human resources are the primary capital for the successful development and sustainability of any organization or agricultural business (Dirmansyah, 2020).

Improving the welfare of oil palm farmers can be achieved through human resource development strategies that integrate technological and social aspects. Strengthening digital literacy, implementing agricultural technology, and appropriate mechanization can increase production efficiency and farmer income. On the other hand, strengthening farmer institutions and expanding access to social security can improve the bargaining position and economic sustainability of plantation communities (Purnomo et al., 2023; Savitri & Rahmawati, 2024). In Gunung Meriah District, Deli Serdang Regency, oil palm is one of the main plantation commodities with an area of 414 ha

and a total of 221 farmers (Deli Serdang Regency Agricultural Extension Program, 2026). However, farmers still face various problems, such as low technical cultivation skills, limited access to information and technology, weak farmer institutions, limited production facilities, and fluctuations in the price of Fresh Fruit Bunches (FFB). In addition, suboptimal infrastructure conditions also affect the efficiency of harvest distribution and farmer income.

These conditions indicate that human resource development for oil palm farmers in Gunung Meriah District is an urgent need. Increasing farmer capacity through education, training, institutional strengthening, and the use of agricultural technology is expected to increase plantation productivity, strengthen their position in the palm oil value chain, and ultimately improve their welfare in a sustainable manner. Therefore, research on human resource development strategies for oil palm farmers to improve their welfare in Gunung Meriah District is crucial.

THEORETICAL BASIS

Oil Palm (Elaeis guineensis Jacq)

Oil palm (Elaeis guineensis Jacq) is a leading plantation commodity that plays a vital role in the Indonesian economy. Although not native to Indonesia, oil palm has grown rapidly and become a major source of foreign exchange through the export of palm oil and its derivatives. Originating from West Africa, this plant was first introduced to Indonesia in 1848 through the Bogor Botanical Gardens. Currently, oil palm plantations are spread across various regions of Indonesia, particularly Sumatra, Kalimantan, Sulawesi, and Papua (Maharani, n.d.). According to Setyamidjaja (2006), the classification of oil palm plants includes the Division Spermatophyta, Classis Monocotyledone, Family Palmaceae, Genus Elaeis, and Species Elaeis guineensis Jacq. Morphologically, oil palm plants consist of vegetative parts in the form of roots, stems, and leaves, as well as generative parts which include flowers and fruit (Fauzi, 2012).

Farmers and Farming

Farmers are individuals who engage in agricultural activities in the broadest sense, including plantations, livestock, fisheries, and other related businesses. In running their businesses, farmers act as managers, responsible for planning, implementing, and overseeing production activities to ensure optimal results. Farming is the science that studies how farmers manage various production factors, such as land, labor, capital, technology, fertilizer, seeds, and pesticides effectively and efficiently to achieve maximum production results and increase income sustainably (Hastuti, 2007). Thus, the success of a farming business is largely determined by the farmer's ability to manage the resources they have.

Welfare Theory

Welfare is a living condition that reflects a state of security, prosperity, health, and freedom from various hardships. According to the Big Indonesian Dictionary (KBBI), welfare comes from the word "sejahtera," meaning safe, secure, and prosperous. In the context of agricultural development, farmer welfare reflects their ability to meet their living needs through productive and sustainable farming management.

Xiang and Gao (2023) explain that well-being encompasses both physical and spiritual aspects, reflected in levels of life satisfaction, income, health, social relationships, and an individual's perception of their quality of life. For oil palm farmers, well-being is measured not only by increased income but also by the perceived improvement in quality of life resulting from the success of their farming operations.

Human Resources (HR)

Human resources (HR) are a key asset that plays a role in driving organizations and business activities. HR is viewed not only as a workforce, but also as intellectual capital possessing the knowledge, skills, and abilities to achieve organizational goals. According to Ardiana et al. (2010), human resource quality can be measured through three main indicators: knowledge, skills, and abilities. Knowledge reflects mastery of science and technology, skills relate to technical abilities in carrying out work, while abilities indicate an individual's capacity to make decisions, lead, and adapt to environmental changes. In the plantation sector, the quality of farmers' human resources is a crucial factor in increasing the productivity and competitiveness of farming businesses.

Human Resource Planning

Human resource planning is the process of determining an organization's workforce needs, both in terms of quantity and quality, to achieve established goals. This planning serves as the foundation for an organization's effective and efficient human resource management. Robbins and Coulter (2016) explain that human resource planning involves two main stages: assessing current human resource conditions and estimating future human resource needs. Through this process, organizations can avoid labor shortages or excesses and ensure the availability of the right human resources at the right time and in the right positions.

Human Resource Development Strategy

A human resource development strategy is a planned effort to improve the quality of human resources by enhancing knowledge, skills, and work abilities. Human resource development aims to increase individual and organizational productivity, enabling them to cope with increasingly dynamic environmental changes. According to Sudarmanto (2021), human resource development is an organization's effort to prepare individuals to assume greater responsibilities through education, training, and competency development. In the context of oil palm farmers, a human resource development strategy is needed to improve technical skills in cultivation, farm management, and the use of agricultural technology to increase farmer productivity and welfare.

SWOT Analysis

A SWOT analysis is a strategic planning method used to identify and evaluate internal and external factors that influence the success of an organization or business. SWOT consists of Strengths, Weaknesses, Opportunities, and Threats. According to Rangkuti (2010), a SWOT analysis helps organizations formulate strategies that capitalize on strengths and opportunities while minimizing weaknesses and threats. Strengths and weaknesses originate from the organization's internal environment, while opportunities and threats originate from the external environment. The results of a SWOT analysis serve as the basis for developing more effective and sustainable development strategies.

***Analytic Hierarchy Process* (AHP)**

The Analytic Hierarchy Process (AHP) is a decision-making method developed by Thomas L. Saaty. This method is used to determine the priorities of various alternatives through pairwise comparisons based on the assessments of experts or decision-makers (Saaty, 2008). The AHP has three main principles: decomposition, comparative judgment, and synthesis of priorities. Decomposition involves breaking down a problem into several hierarchical levels. Comparative judgment involves pairwise comparisons between elements within the hierarchy, while synthesis of priorities is used to determine the priority weight of each analyzed alternative. The AHP method is widely used in strategy research because it can produce systematic and objective decisions.

RESEARCH METHODS

This study uses a descriptive method with a qualitative approach that aims to describe in depth the condition of human resources (HR) of oil palm farmers, the obstacles faced , and HR development strategies that can be applied to improve the welfare of farmers in Gunung Meriah District, Deli Serdang Regency. The qualitative approach was chosen because it is able to provide a comprehensive understanding of the social, economic, and technical phenomena that occur in the environment of oil palm farmers (Sugiyono, 2009). The study was conducted in Gunung Meriah District, Deli Serdang Regency, North Sumatra from March to May 2026. The research location was chosen purposively with the consideration that the area has a fairly large number of oil palm farmers, faces significant HR quality problems, and the oil palm plantation sector is the main source of income for the local community (Sugiyono, 2018).

The population in this study was all 221 oil palm farmers actively engaged in farming activities in Gunung Meriah District (Researcher Pre-Survey, 2025). The sample was determined using the Probability Sampling technique with the Simple Random Sampling method so that each member of the population had an equal chance of being selected as a respondent. The sample size was determined using the Slovin formula with a 10% error rate, resulting in 69 respondents who were considered capable of representing the study population (Prasetia et al., 2022; Yusmel et al., 2019). The data used consisted of primary and secondary data. Primary data were obtained directly from oil palm farmers through semi-structured interviews, field observations, and documentation. Interviews were conducted to gather information on human resource conditions, farm management, and development strategies needed by farmers. Observations were used to directly observe plantation conditions, the application of cultivation techniques, and farm activities, while documentation served as supporting and visual

evidence of conditions found in the field (Sugiyono, 2018). Secondary data were obtained from various sources, such as the Central Statistics Agency (BPS), reports from relevant agencies, government documents, and previous research results relevant to the research topic (Arikunto, 2010).

Data analysis was conducted using a SWOT analysis aimed at identifying internal factors in the form of strengths and weaknesses as well as external factors in the form of opportunities and threats in the development of human resources for oil palm farmers (Rangkuti, 2010). The analysis stage began with the preparation of the Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices to determine strategic factors that influence the development of farmer human resources (Damelia, 2015). Next, a matching of internal and external factors was carried out through the SWOT Matrix to produce alternative strategies that include Strength-Opportunity (SO), Weakness-Opportunity (WO), Strength-Threat (ST), and Weakness-Threat (WT) strategies (David, 2010). The results of this analysis were used as a basis for formulating appropriate human resource development strategies to improve the welfare of oil palm farmers in Gunung Meriah District, Deli Serdang Regency.

RESEARCH RESULT

Condition of Human Resources Quality of Palm Oil Farmers .

Technical Knowledge of Cultivation

Table 1. Distribution of Informants' Technical Knowledge of Cultivation

No	Knowledge Technical Which It is mentioned	Amount	Percent (%)
1	Election seeds superior & distance plant appropriate	15	21.74
2	Election land appropriate & seeds superior	14	20.29
3	Election seeds superior (just)	10	14.49
4	Election varieties Which Good	6	8.70
5	Election seeds Which Good	3	4.35
6	Fertilization regular And pruning correct	2	2.90
7	Seeds superior, suitability level & move plant	2	2.90
8	Answer other (maintenance, technique plant, etc.)	17	24.63
Amount		**69**	**100.00**

All 69 informants had basic knowledge of oil palm cultivation and were able to mention at least one technical aspect of cultivation. The most common knowledge among farmers related to selecting superior seeds, planting distances, and selecting suitable land, while understanding more comprehensive technical aspects such as fertilization and pruning was still very limited. This condition indicates that farmers' knowledge tends to focus on the initial stages of cultivation and does not yet encompass comprehensive plantation management, which impacts productivity. This low level of technical knowledge is thought to be due to limited access to agricultural training and extension, with 95.65% of farmers having never participated in formal training. As a result, most of the knowledge farmers possess is obtained from personal experience and passed down from generation to generation, resulting in relatively low mastery of modern cultivation technology.

Cultivation Skills

Table 2. Skill Levels and Plant Care Methods

No	Indicator	Category	Amount	Percentage (%)
Skill Level				
1	Skill level in managing the garden	Not yet skilled	67	97.1
		Quite skilled	1	1.45
		Very skilled	1	1.45
Treatment Method				
2	How to care for plants	Just pruning	51	73.91

Interview results indicate that farmers' skill levels in managing oil palm plantations are still very low. A total of 97.10% of informants admitted to being unskilled, while only 2.90% felt they were sufficiently or highly skilled, and both were farmers who had received training. In plantation maintenance practices, the majority of farmers only perform pruning (trimming the fronds), while only a small proportion combine this with fertilization, land clearing, or weed and pest control. This condition indicates that the implementation of Good Agricultural Practices (GAP) is still low, potentially hampering the increase in productivity and efficiency of oil palm farming.

Access to Agricultural Information

Table 3. Sources of Agricultural Information and Access to Fresh Fruit Bunch Prices

No	Source Information	Amount (Person)	Percentage (%)
1	Friend, media social, And family	39	56.52
2	Internet And person experienced	9	13.04
3	Media social / YouTube	5	7.25
4	From friends	4	5.80
5	From Internet	2	2.90
6	Media social (general)	2	2.90
7	From family	1	1.45
8	From PKS	1	1.45
9	Source other	6	8.69
Amount		**69**	**100.00**

The research results show that farmers obtain more agricultural information through informal networks, such as friends, family, and social media, while the role of formal extension services is largely invisible. Some farmers also utilize the internet and the experiences of other farmers as sources of information, but none use agricultural extension workers as their primary source. This situation indicates that farmers still have limited access to structured extension services. Meanwhile, information on fresh fruit bunch (FFB) prices is generally easily obtained through agents or middlemen. This high dependence on middlemen as a source of price information weakens farmers' bargaining power and increases the risk of unfavorable pricing practices.

Obstacles in the Development of Farmer Human Resources

Internal Barriers

Table 4. Distribution of Internal Barriers to Farmers

No	Type Constraint	Amount (Person)	Percentage (%)
1	Capital constraints	22	31.88
2	Knowledge constraints	19	27.54
3	Lack of knowledge And capital	15	21.74
4	Constraint in knowledge And capital	2	2.90
5	Lack of capital And fertilizer expensive	2	2.90
6	Lack of knowledge And fertilization	2	2.90
7	Other obstacles (transportation, pest, land)	7	10.14
Amount		**69**	**100.00**

The research results show that the main internal barriers faced by oil palm farmers are limited capital and knowledge. Most farmers identified one or both of these factors as the main constraints in managing their plantations, with over 84% of respondents facing problems related to capital and/or knowledge. Furthermore, almost all farmers considered limited knowledge a very serious problem in running their farming businesses. These findings indicate that low technical knowledge, exacerbated by limited capital, is the most crucial internal barrier that needs to be prioritized in efforts to develop farmer capacity and increase oil palm plantation productivity.

External Barriers

Table 5. Summary of External Barriers to Farmers

No	External Barrier Indicators	Answer Categories	Number of people)	Percentage (%)
1	Access to training and counseling	Never attended training/counseling	65	94.2
		Have attended training/counseling	4	5.8
2	Road infrastructure conditions	Damaged roads affect farming efforts	69	100
3	Institutional support for farmers	No support from farmer groups/cooperatives	67	97.1
		There is support from farmer groups/cooperatives	2	2.9
Number of Respondents			69	100

The research results show that the main external obstacles faced by oil palm farmers are the lack of extension services, poor road infrastructure, and weak institutional support. Most farmers have never participated in training or extension services due to the lack of extension programs in their areas. Furthermore, all respondents stated that damaged road conditions significantly impact farming activities, particularly in the transportation of fresh fruit bunches (FFB), which increases transportation costs and reduces the quality of the harvest. Furthermore, almost all farmers also admitted to not receiving support from farmer groups or cooperatives. These conditions indicate that external factors remain a major obstacle hindering the improvement of human resource capacity, productivity, and the welfare of oil palm farmers.

Human Resource Development Strategy Needs According to Farmers

Table 6. Types of Farmer Assistance Required by Farmers

No	Type Help Which Needed	Amount	Percent (%)
1	Fertilizer (just)	15	21.74
2	Fertilizer And capital	15	21.74
3	Fertilizer, drugs, And seeds	12	17.39
4	Fertilizer, seeds, And capital	11	15.94
5	Fertilizer, capital, And training	3	4.35
6	Repair road And fertilizer	3	4.35
7	Repair road (just)	2	2.90
8	Training cultivation (just)	1	1.45
9	Capital (just)	1	1.45
10	No need help	1	1.45
11	Other	5	7.24
Amount		**69**	**100.00**

Most oil palm farmers in Gunung Meriah District desire practical training that can be directly applied in the field. The majority of informants considered field training to be the most relevant method for improving their plantation management skills, compared to theoretical training. Furthermore, all informants agreed that agricultural training and extension are the most needed efforts to improve farmers' capacity and skills. This situation demonstrates the high demand for sustainable extension programs as a means of improving the quality of farmers' human resources.

In addition to the need for capacity building, almost all farmers also expect government support in the form of agricultural facilities and infrastructure. The most frequently requested assistance is fertilizer, either alone or in combination with business capital, superior seeds, agricultural chemicals, and training. Furthermore, some farmers emphasized the importance of improving road infrastructure to support smooth harvest distribution. These findings indicate that improving farmer welfare requires not only strengthening human resource capacity through training and extension, but also government support in the provision of production inputs and improving supporting agricultural facilities.

SWOT Analysis of Human Resource Development for Palm Oil Farmers

Based on interviews and field observations, IFAS and EFAS matrices were developed to identify internal and external factors influencing human resource development among oil palm farmers in Gunung Meriah District. Weighting and ratings were based on the frequency and importance of the factors, as determined by interviews with 69 informants.

Table 7. IFAS Matrix for Human Resource Development of Oil Palm Farmers

Internal Factors	Weight	Rating	Score
Strengths			
S1. Farmers have farming experience that has been passed down through generations and adequate field experience.	0.15	3	0.45
S2. Land ownership is relatively adequate (mostly 1–2 ha) so it has the potential to support increased productivity.	0.15	3	0.45
S3. Farmers can easily access information on fresh fruit bunch (FFB) prices.	0.1	3	0.3
S4. High awareness among farmers regarding the importance of increasing knowledge and skills	0.1	4	0.4
S5. The majority of farmers have a high school education or equivalent, so they have fairly good basic literacy skills.	0.05	3	0.15
Total Strength	**0.55**		**1.8**
Weaknesses			
W1. The level of technical skills in oil palm cultivation is still low.	0.15	1	0.15
W2. Lack of access to agricultural training and extension	0.15	1	0.15
W3. Limited business capital for plantation management and development	0.1	2	0.2
W4. Weak farmer institutions (farmer groups/cooperatives are not functioning optimally)	0.05	1	0.05
Number of Weaknesses	**0.45**		**0.6**
Total IFAS	**1**		**2.3**

The total IFAS score of 2.30 indicates an internal position below the average (2.50). This indicates that farmers still face significant weaknesses, particularly low skills (W1) and limited access to training (W2), which each received the lowest score (0.15). Farmers' greatest strength lies in their collective awareness of the importance of knowledge, with a score of 0.40, which provides crucial psychological capital for driving change.

Table 8. EFAS Matrix for Human Resource Development of Oil Palm Farmers

External Factors	Weight	Rating	Score
Opportunities			
O1. Global demand for palm oil (CPO) continues to increase, potentially increasing the price of fresh fruit bunches (FFB) for farmers.	0.15	4	0.6
O2. Availability of government programs for the development of smallholder plantations, such as KUR, PSR, and agricultural extension	0.15	3	0.45
O3. Development of agricultural technology that can be accessed through digital platforms to improve farmers' knowledge and skills.	0.1	3	0.3
O4. Potential for strengthening farmer institutions through farmer groups and cooperatives at the village level	0.1	3	0.3
Number of Opportunities	**0.5**		**1.7**
Threats			
T1. Unstable fluctuations in fresh fruit bunch (FFB) prices, which affect farmers' income.	0.2	2	0.4
T2. Poor road infrastructure conditions hamper the distribution of harvests.	0.15	1	0.15
T3. High dependence of farmers on middlemen in marketing fresh fruit bunches (FFB)	0.1	2	0.2
T4. Limited access to subsidized fertilizers needed by farmers	0.05	2	0.1
Number of Threats	**0.5**		**0.9**
Total EFAS	**1**		**2.5**

The total EFAS score of 2.50 is right around the average. The biggest opportunities are increasing global demand for CPO (score 0.60) and the government's program for smallholder plantations (score 0.45). The biggest threat is fluctuations in fresh fruit bunch (FFB) prices (score 0.40), which 91.30% of informants significantly experience in the form of frequently fluctuating income.

Determining SWOT Quadrant Position

Based on the results of IFAS and EFAS calculations, strategic position is determined through the difference between strength and weakness scores (X-axis) and the difference between opportunities and threats (Y-axis):

Total Strength Score (S) = 0.45 + 0.45 + 0.30 + 0.40 + 0.15 = 1.75
Total Weakness Score (W) = 0.15 + 0.15 + 0.20 + 0.05 = 0.55
Internal Difference (S – W) = 1.75 – 0.55 = +1.20 → Positive X-axis
Total Chance Score (O) = 0.60 + 0.45 + 0.30 + 0.30 = 1.65
Total Threat Score (T) = 0.40 + 0.15 + 0.20 + 0.10 = 0.85
External Difference (O – T) = 1.65 – 0.85 = +0.80 → Y axis is positive

With coordinates (+1.20; +0.80), the human resource development position of oil palm farmers in Gunung Meriah District is in Quadrant I (Aggressive Strategy). This position is advantageous because farmers have sufficient internal strengths to capitalize on existing external opportunities. The recommended strategy is an aggressive growth strategy, which maximizes existing strengths to seize the greatest opportunities.

Strategy Formulation Through SWOT Matrix

Based on the results of IFAS and EFAS, a SWOT Matrix was compiled which produced four groups of strategies: SO, WO, ST, and WT strategies.

Table 9. SWOT Matrix for Human Resource Development for Palm Oil Farmers

	Strengths (Strengths/S)	**Weaknesses (W)**
Opportunities (O)	**S–O Strategy**	W–O Strategy
	SO1. Leverage farming experience and productive land ownership to support the adoption of cultivation technologies through government programs.	WO1. Activate extension programs and field training based on Good Agricultural Practices (GAP) for farmers who have never participated in training.
	SO2. Leverage farmers' high awareness of the importance of knowledge to increase participation in training and extension activities.	WO2. Establish and strengthen farmer groups and cooperatives to increase institutional support for farmers.
	SO3. Optimize the use of social media and digital technology as a means of disseminating technical information on oil palm cultivation.	WO3. Facilitate farmers' access to the KUR program, production facility subsidies, and government assistance to overcome capital constraints.
Threats (Threats/T)	**S–T Strategy**	W–T Strategy
	ST1. Utilize farming experience to diversify businesses to reduce dependence on fluctuations in fresh fruit bunch (FFB) prices.	WT1. Improve the human resource capacity of farmers through training in business management, price risk management, and marketing strategies.
	ST2. Strengthen farmers' bargaining position by utilizing official price information and broader market information sources.	WT2. Promote advocacy and cooperation with local governments to accelerate road infrastructure improvements.
	ST3. Increase the efficiency of fertilizer use and garden maintenance to reduce production costs amid rising prices of production inputs.	WT3. Building strong oil palm farmer cooperatives to reduce dependence on middlemen and expand access to capital.

S–O (Strength–Opportunity) Strategy

The S–O strategy is implemented by utilizing the strengths of farmers to seize available opportunities. **SO1** , farming experience and ownership of a large enough area of land can be utilized to support the implementation of modern cultivation technology through government programs such as the People's Oil Palm Rejuvenation (PSR). **SO2** , farmers' high awareness of the importance of knowledge is a good capital to increase participation in agricultural training and extension activities. **SO3** , the use of social media that has been utilized by most farmers can be optimized as a means of disseminating technical information on oil palm cultivation that is faster and more easily accessible.

W–O (Weakness–Opportunity) Strategy

The W–O strategy aims to address internal weaknesses by leveraging external opportunities. **WO1** , low access to training can be addressed through the ongoing implementation of *Good Agricultural Practices (GAP)-based extension and field training.* **WO2** , weak farmer institutions can be improved through the formation and strengthening of farmer groups and cooperatives supported by government empowerment programs. **WO3** , the limited capital faced by most farmers can be overcome by utilizing the People's Business Credit (KUR) facility and assistance with available agricultural production facilities.

S–T (Strengths–Threats) Strategy

The S–T strategy leverages strengths to mitigate the impact of threats faced by farmers. **ST1** , farming experience and land ownership can be leveraged to diversify farming businesses so that farmers do not solely rely on income from oil palm. **ST2** , easy access to FFB price information needs to be directed to more official sources of information so that farmers' bargaining position improves and they do not rely entirely on middlemen. **ST3** , the implementation of more efficient cultivation through balanced fertilization and the use of local resources can help reduce production costs amidst high prices of production inputs.

W–T (Weakness–Threat) Strategy

The W–T strategy is a defensive strategy that aims to reduce weaknesses while avoiding threats. **WT1** , training in business management, price risk management, and marketing needs to be provided to improve farmers' ability to deal with fluctuations in FFB prices. **WT2** , farmers need to be encouraged to conduct joint advocacy with local governments to accelerate improvements to road infrastructure which is a major obstacle in the distribution of harvests. **WT3** , the formation of professionally managed oil palm farmer cooperatives can be a solution to strengthen access to capital, procurement of production facilities, and collective marketing of harvests so that dependence on middlemen can be reduced.

Welfare Conditions of Palm Oil Farmers

Table 10. Conditions of Welfare of Oil Palm Farmers

No	Dimensions of Well-being	Category	Number of people)	Percentage (%)
1	Income Sufficiency	Not enough	51	73.91
		Sufficient	13	18.84
		Quite sufficient	2	2.9
		Insufficient/decreasing	1	1.45
		Depends on the condition	2	2.9
2	Income Stability	Frequently changing	63	91.3
		Stable	6	8.7
3	General Economic Conditions	Enough	60	86.96
		Still lacking/decreasing	5	7.25
		Good/there is improvement	4	5.8
4	Additional Work	There isn't any	49	71.01
		There are (rice farming, village officials, entrepreneurs, and other jobs)	20	28.99

The research results show that the welfare of oil palm farmers in Gunung Meriah District remains relatively low. Most farmers stated that their farm income is insufficient to meet family needs and is heavily influenced by fluctuations in fresh fruit bunch (FFB) prices, leading to unstable incomes. Although the majority assess their families' economic conditions as adequate, this reflects more of a sense of survival than an optimal

level of well-being. Some farmers have also diversified their income through additional work as a strategy to cope with economic uncertainty. All informants stated that increasing knowledge and skills significantly impacted family well-being. Farmers' hopes for the future focused on increasing plantation productivity, improving harvest quality, and achieving higher and more stable fresh fruit bunch (FFB) prices. These findings demonstrate that human resource development through training, outreach, and mentoring is a crucial strategy for sustainably improving the productivity and well-being of oil palm farmers.

The Relationship between HR, Strategy, and Welfare

Based on the research results, there is a strong correlation between the low quality of farmer human resources, suboptimal human resource development strategies, and the low level of welfare of oil palm farmers in Gunung Meriah District. The low level of farmer skills is influenced by limited access to training and extension, which impacts low productivity and farm income. This condition indicates that improving the quality of human resources is a crucial factor in efforts to improve farmer welfare. The results of the SWOT analysis indicate that the development of farmer human resources is in a strategic position that supports the implementation of aggressive strategies. Farmers' awareness of the importance of knowledge, farming experience, and the availability of productive land are strengths that can be utilized along with opportunities in the form of government program support and development of the oil palm sector. Therefore, strategies that need to be prioritized are increasing agricultural extension based on Good Agricultural Practices (GAP), strengthening farmer institutions, and expanding access to business capital. In terms of welfare, most farmers still face insufficient and unstable incomes due to fluctuations in fresh fruit bunch (FFB) prices. Nevertheless, farmers remain optimistic that increasing their knowledge and skills can improve their economic situation. Therefore, efforts to improve farmer welfare need to focus on developing human resource capacity, strengthening farmer groups or cooperatives, facilitating access to financing, and improving supporting infrastructure to sustainably increase the productivity and competitiveness of oil palm farming.

CONCLUSION

The results of the study indicate that the quality of human resources of oil palm farmers in Gunung Meriah District is still relatively low, characterized by minimal access to training and extension, low technical cultivation skills, and dependence on informal information sources. This condition impacts the low implementation of Good Agricultural Practices (GAP) and the limited ability of farmers to increase farm productivity. Barriers to the development of farmer human resources come from internal and external factors. Internal factors include limited capital and technical knowledge, while external factors include the unavailability of agricultural extension programs, poor road infrastructure, and weak institutional support for farmers. These obstacles are interrelated and are the main causes of the low capacity of farmers to manage their farms optimally. Based on the SWOT analysis, farmer human resource development is in Quadrant I (aggressive strategy), which indicates that the available strengths and opportunities are still quite large to be utilized. Recommended priority strategies include increasing GAP-based extension, strengthening farmer groups and cooperatives, expanding access to capital, utilizing information technology, and improving infrastructure supporting farming businesses. From a welfare aspect, most farmers still face insufficient and unstable incomes due to fluctuations in FFB prices. However, all farmers believe that increasing knowledge and skills will contribute to improving their well-being. Therefore, planned and sustainable human resource development is a key strategy for increasing the productivity, competitiveness, and well-being of oil palm farmers in Gunung Meriah District.

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