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FARMERS' PARTICIPATION IN THE IMPLEMENTATION OF THE PEOPLE'S OIL PALM REJUVENATION PROGRAM (PSR) IN TELUK PANJI VILLAGE, KAMPUNG RAKYAT DISTRICT, SOUTH LABUHANBATU REGENCY

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Abstract

The Small-Scale Oil Palm Replanting (PSR) Program is a government effort to increase the productivity of small-scale oil palm plantations by replanting unproductive plants. This study aims to determine the level of farmer participation in the PSR program and analyze the relationship between participation factors and farmer participation in Teluk Panji I Village, Kampung Rakyat District, South Labuhanbatu Regency. This study uses a quantitative descriptive method, with 46 farmers participating in the PSR program as respondents. Data analysis was carried out using a *Likert scale* and *Spearman Rank Correlation test* with the help of *IBM SPSS Statistics Version 22*. The results showed that the level of farmer participation in the PSR program was relatively high, namely 79.8%. Based on the results of the Spearman Rank correlation test for four internal factors, two variables showed a significant relationship with farmer participation: motivation (rs = 0.577; sig. = 0.000) and education level (rs = 0.308; sig. = 0.037). Meanwhile, the other two variables were not significant: income (rs = 0.187; sig. = 0.212) and farming experience (rs = 0.257; sig. = 0.084). Then, two external factors showed a significant relationship with farmer participation: the availability of production facilities (rs = 0.621; strong category) and capital assistance (rs = 0.439; moderate category). The PSR program in Teluk Panji I Village was quite successful, as evidenced by the high enthusiasm of farmers to participate in the program.

Keywords: Farmer Participation, Oil Palm Rejuvenation Program (PSR), Spearman Rank Correlation, Oil Palm.

INTRODUCTION

The Smallholder Oil Palm Rejuvenation Program (PSR) is a national strategic program included in the 2020–2024 National Medium-Term Development Plan (RPJMN). This program is designed to increase the productivity of smallholder oil palm plantations by rejuvenating plants that have passed their productive age, while maintaining plantation area and optimizing their utilization. Furthermore, the PSR also plays a role in helping resolve various land legality issues still faced by oil palm farmers in Indonesia (Apriadi et al., 2025). As a form of support for this program, the government, through the Indonesian Palm Oil Plantation Fund Management Agency (BPDPKS), is providing financial assistance for replanting unproductive farmers. This assistance covers the costs of felling old trees, providing superior seeds, maintaining immature plants, and providing technical assistance during program implementation. The financial support provided reaches IDR 60,000,000 per hectare, with a maximum of two hectares per farmer. This is expected to increase plantation productivity and the welfare of oil palm farmers sustainably (Siahaan et al., 2020).

The success of the PSR Program implementation is not only determined by funding support and government policies, but also greatly influenced by the level of participation of farmers as the program's key actors. Farmer participation is required at every stage of the program, from planning and implementation to evaluation. This level of involvement can be influenced by various factors, both internal farmer characteristics such as education, farming experience, motivation, and income, as well as external factors such as the availability of capital, production facilities, and program assistance (Apriadi et al., 2025). South Labuhanbatu Regency is one of the central palm oil production areas in North Sumatra, with many old smallholder plantations in need of replanting. One of the areas implementing the Smallholder Replanting Program is Teluk Panji I Village, Kampung

Rakyat District. Although the program has been running, information on the level of farmer participation and the factors influencing it in the early stages of program implementation is still limited. Therefore, this study is important to obtain an overview of the level of farmer participation and the factors related to this participation in the implementation of the Smallholder Oil Palm Replanting Program in Teluk Panji I Village, Kampung Rakyat District, South Labuhanbatu Regency (Asidiq et al., 2022).

This study aims to analyze the level of farmer participation in the implementation of the Smallholder Oil Palm Replanting Program (PSR) in the early stages of implementation in Teluk Panji I Village, Kampung Rakyat District, South Labuhanbatu Regency. Furthermore, this study also aims to identify and analyze factors related to the level of farmer participation in the program, both internal and external. The results of this study are expected to be used as considerations by the government, program implementing agencies, and other relevant parties in improving the effectiveness of the PSR program and encouraging more optimal farmer involvement in the future.

THEORETICAL BASIS

Farmer Participation

Farmer participation refers to their active involvement in all stages of a development program, from planning and implementation to product utilization and evaluation. In the context of the Smallholder Oil Palm Replanting Program (PSR), participation encompasses not only physical contributions but also mental, emotional, and intellectual involvement in supporting the program's success. A high level of participation demonstrates farmers' commitment as key actors in agricultural development and is a crucial factor in achieving program objectives (Asidiq et al., 2022). Farmer participation can be demonstrated through the provision of ideas and input, the involvement of personnel in technical activities, the utilization of cultivation skills, material support, and active participation in farmer group activities and social activities related to the agricultural development program (Fangohoi et al., 2022). Indicators of farmer participation include involvement in the planning, implementation, product utilization, and program evaluation stages. Participation at the planning stage is demonstrated through participation in outreach and the preparation of activity plans, while at the implementation stage, involvement in technical cultivation activities is reflected. Participation at the utilization stage relates to farmers' ability to utilize program benefits, while participation at the evaluation stage is demonstrated through providing input and recommendations for program improvements (Hutabarat, 2021; Fangohoi et al., 2022).

Factors Influencing Farmer Participation

Farmer participation is influenced by internal and external factors. Internal factors include education level, income, motivation, and farming experience. Education plays a role in improving farmers' ability to understand information, adopt innovations, and effectively implement program procedures. Income determines farmers' ability to meet needs during the rejuvenation period, while motivation is the primary driver of farmer involvement in the program. Furthermore, farming experience contributes to farmers' ability to make decisions and manage farming activities more effectively (Handayani et al., 2025; Syafira et al., 2024; Wahyuni & Barus, 2021; Sihombing et al., 2024).

External factors influencing farmer participation include capital assistance and the availability of production facilities. Capital assistance through the PSR Program can reduce the economic burden on farmers during the immature crop period, while the availability of production facilities such as superior seeds, fertilizers, pesticides, and cultivation tools supports smooth program implementation. Adequate external support will increase farmer interest and involvement in participating in the smallholder oil palm rejuvenation program (Siahaan et al., 2020; Rasmikayati et al., 2021).

People's Oil Palm Rejuvenation Program (PSR)

The Smallholder Oil Palm Rejuvenation Program (PSR) is a government program aimed at increasing the productivity and competitiveness of smallholder oil palm plantations by replacing old or unproductive plants with superior seedlings. This program is implemented to address low productivity in smallholder plantations, which is generally caused by plants that have passed their productive period and farmers' limited capital for independent rejuvenation (Siahaan et al., 2020). In addition to increasing productivity, the PSR is also aimed at improving farmer welfare, strengthening farmer group institutions, and encouraging the implementation of good cultivation practices (Sari & Prihatin, 2024). The PSR implementation is carried out through several stages, namely outreach, administrative verification, land preparation, planting, plant maintenance, and monitoring and evaluation. This program is supported by government funding through the Indonesian Palm Oil Plantation Fund Management

Agency (BPDPKS), which provides assistance for replanting activities and technical assistance to participating farmers (Asidiq et al., 2022; Apriadi et al., 2025).

Oil Palm and Plant Rejuvenation

Oil palm (Elaeis guineensis Jacq.) is a strategic plantation commodity that significantly contributes to the Indonesian economy. This plant has a productive lifespan of around 25–30 years and begins producing fruit 3–4 years after planting. As the plant ages, productivity declines, necessitating rejuvenation activities to maintain and increase yields (Panggabean et al., 2023; Rahmawati & Susanto, 2022). Oil palm plantations are considered suitable for replanting if they are more than 25 years old or have low productivity, making them no longer economically profitable. Therefore, the Replanting Replanting Program (PSR) is a strategic solution to increase the productivity of smallholder plantations through the use of superior seeds and the implementation of improved cultivation technologies (Panggabean et al., 2023; Siahaan et al., 2023).

RESEARCH METHODS

This research was conducted in Teluk Panji I Village, Kampung Rakyat District, South Labuhanbatu Regency, North Sumatra, from January to March 2026. The research location was selected purposively because it is one of the implementation areas of the People's Oil Palm Rejuvenation Program (PSR) and has easy access for researchers. The study population consisted of 78 farmers participating in the PSR Phase I Program who are members of the KUD Karya Maju Farmers Group. The sample size was determined using the Taro Yamane formula with a precision level of 10%, resulting in 46 respondents. Sampling was carried out using a random sampling method so that each member of the population had an equal opportunity to be selected as a respondent (Machali, 2021).

The research variables consist of farmer participation as the dependent variable (Y), while the independent variables include internal and external factors. Internal factors consist of education level (X1), income (X2), motivation (X3), and experience (X4), while external factors consist of capital assistance (X5) and the availability of production facilities (X6). All variables were measured using a five-level Likert scale, with a score range of 1 to 5 indicating very low to very high categories (Sugiyono, 2020). The data used in this study includes primary and secondary data. Primary data were obtained through observation, interviews, and questionnaires distributed to respondents, while secondary data were obtained from the Central Statistics Agency (BPS), KUD Karya Maju documents, and various literature such as relevant books and scientific journals. Data collection techniques included field observations, structured interviews, questionnaires, and document recording to obtain complete and accurate information regarding the implementation of the PSR Program.

Data analysis was performed using IBM SPSS Statistics version 22. Prior to hypothesis testing, the research instruments were tested for validity and reliability. Validity was tested using the Product Moment correlation, while reliability was tested using the Cronbach's Alpha method, with an alpha value greater than 0.60 being considered reliable (Sugiyono, 2020). Descriptive analysis was used to describe the level of farmer participation in the PSR Program based on Likert scores, which were categorized as very low to very high. Furthermore, Spearman's Rank Correlation analysis was used to examine the relationship between factors influencing participation and farmer participation levels. This method was chosen because it is suitable for measuring the strength of the relationship between ordinal or non-parametric variables. Decisions were made based on a 5% significance value ($\alpha = 0.05$), where a significance value less than 0.05 indicates a significant relationship between the variables being tested (Rosalina et al., 2023).

RESEARCH RESULT

Level of Farmer Participation in the Implementation of the People's Oil Palm Replanting Program (PSR)

The level of farmer participation in the People's Oil Palm Rejuvenation Program (PSR) in Teluk Panji I Village was measured using a Likert Scale encompassing four indicators: decision-making, program implementation, monitoring and evaluation, and yield utilization. The level of participation was determined based on the percentage comparison between the obtained score and the maximum score, then classified into very low, low, medium, high, and very high categories according to a predetermined percentage range.

Table 1. Level of Farmer Participation in the PSR Program in Teluk Panji Village 1

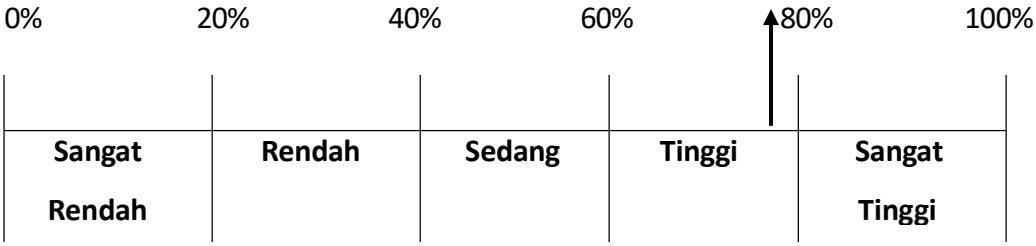
No	Participation Indicators	Score Obtained	Maximum Score	Percentage (%)	Category
1.	Decision-making	1,439	1,840	78.2%	Tall
2.	Implementation	1,084	1,380	76.0%	Tall
3.	Supervision and Evaluation	1,107	1,380	80.2%	Very high
4.	Utilization of Results	1,325	1,610	82.2%	Very high
	Amount	**4955**	**6,210**	**79.8%**	**Tall**

It is known that the overall level of farmer participation, which covers four stages, is classified as high, with a percentage of 79.8%. When depicted as a continuous line, the results can be seen in Figure 1 below :

Figure 1. Continuum Line of Farmer Participation Level in the Implementation of the People's Oil Palm Rejuvenation Program

a. Decision-making

Farmer participation at the decision-making stage was high, at 78.2%. This high level of participation indicates that farmers are quite active in obtaining information and are involved in the decision-making process related to the implementation of the Smallholder Oil Palm Replanting Program (PSR). Although there is no direct discussion forum between extension workers and farmers, the dissemination of information through the Karya Maju Cooperative (KUD) and farmer groups allows farmers to obtain necessary



information and engage in discussions with fellow program participants. Farmer involvement at the planning stage is crucial because it ensures that the program is implemented in accordance with the needs and conditions of farmers in the field. This finding aligns with research by Asidiq et al. (2022), which states that participation in planning includes farmer involvement in extension, providing input, and developing activity plans. Furthermore, Fangohoi et al. (2022) found that farmer involvement from the planning stage positively contributes to the success of program implementation.

b. Program Implementation

Farmer participation during the implementation phase reached 76.0% and is considered high. This level of participation is reflected in farmer involvement in various technical activities, such as seedling planting, fertilization, and post-replanting plant maintenance. This high level of involvement indicates that farmers not only act as beneficiaries but also as key implementers, determining the program's success in the field. These results support the opinion of Aliansyah et al. (2024) who stated that farmer involvement in PSR implementation is influenced by clear technical procedures and farmer institutional readiness. Maharani and Laksmono (2021) also emphasized that the effectiveness of farmer groups plays a crucial role in increasing farmer participation during program implementation.

c. Monitoring and Evaluation

The monitoring and evaluation stage achieved a percentage of 80.2% and is categorized as very high. This result indicates that farmers have a good awareness of monitoring program development and providing

input on its implementation. Farmer involvement in monitoring and evaluation is an indicator of a sense of ownership of the program being implemented. According to Apriadi et al. (2025), farmer participation in program evaluation serves as an important feedback mechanism for extension workers and program managers in improving the quality of activity implementation. Furthermore, Siahaan et al. (2020) stated that farmer involvement in the monitoring and evaluation process is a crucial factor supporting the success of the PSR Program.

d. Utilization of Results

Farmer participation in the yield utilization stage reached 82.2%, the highest compared to other stages. This high achievement indicates that farmers have experienced tangible benefits from the PSR Program, particularly through the use of superior seeds, technical support, and financial assistance provided during the replanting process. Although the plants have not yet entered the production phase, farmers are confident that the program will increase plantation productivity in the future. This finding aligns with research by Fangohoi et al. (2022), which states that participation in the yield utilization stage motivates farmers to obtain long-term benefits from the development program. Meanwhile, Sihombing et al. (2024) emphasized that the successful utilization of replanting yields is greatly influenced by farmers' consistency in implementing cultivation techniques during the immature period.

The Relationship Between Education Level and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the Spearman rank correlation test calculations with the help of *IBM SPSS Statistics Version 22* are presented in Table 2:

Table 2. Relationship between Education Level and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Correlations

			Level of education	Farmer Participation
Spearman's rho	Level of education	Correlation Coefficient	1,000	.308 *
		Sig. (2- tailed)	.	.037
		N	46	46
	Participation Farmer	Correlation Coefficient	.308 *	1,000
		Sig. (2- tailed)	.037	.
		N	46	46

The Spearman Rank correlation test results show that education level has a positive and significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.308 and a significance value of 0.037 ($p<0.05$). This value indicates that the relationship is in the weak category, but the higher the farmer's education level, the higher their level of participation in the PSR program. Based on field interviews, farmers with higher levels of education tend to have an easier time understanding information, administrative requirements, and program implementation stages. This encourages them to be more proactive in seeking information, completing documents, and communicating with program implementers. Conversely, farmers with lower levels of education tend to have difficulty understanding program mechanisms, resulting in relatively limited participation. The results of this study align with the findings of Handayani et al. (2025), who stated that education influences farmers' active participation in agricultural development programs because it improves their ability to understand innovation and information. Collins et al. (2021) also explained that education level is a crucial factor influencing farmers' perceptions and involvement in oil palm rejuvenation programs. Furthermore, Wahyuni and Barus (2021) emphasized that education is a human

capital that can encourage changes in farmers' mindsets and increase their participation in the implementation of the Reforestation and Reforestation Program (PSR).

The Relationship Between Income and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the Spearman rank correlation test calculations with the help of *IBM SPSS Statistics Version 22* are presented in Table 3.

Table 3. Relationship between Income and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Correlations

			Income	Farmer Participation
Spearman's rho	Income	Correlation Coefficient	1,000	.187
		Sig. (2- tailed)	.	.212
		N	46	46
	Participation Farmer	Correlation Coefficient	.187	1,000
		Sig. (2- tailed)	.212	.
		N	46	46

The Spearman Rank correlation test results indicate that income does not have a significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.187 and a significance value of 0.212 ($p>0.05$). This correlation value indicates a very weak relationship, so that income level is not a major factor influencing farmer participation in the program. Based on the interview results, both farmers with high and low incomes have a relatively equal opportunity to participate in the PSR Program. This is due to the financial support from BPDPKS which helps cover replanting costs, so that economic limitations are not a major obstacle for farmers. Farmers' decisions to participate are more influenced by their understanding of the program's benefits and the need to rejuvenate their plantations than by their income levels. The results of this study are in line with Siahaan et al. (2020) who stated that the PSR financing scheme is designed to reach all farmers regardless of their economic conditions. Syafira et al. (2024) also explained that income factors tend to have no influence when the program's financing mechanisms and socialization are running well. Thus, the insignificant relationship between income and participation shows that the PSR Program has been able to provide inclusive access for all participating farmers.

The Relationship Between Motivation and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the Spearman rank correlation test calculations with the help of *IBM SPSS Statistics Version 22* are presented in table 4:

Table 4. Relationship between Motivation and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Correlations

			Motivation	Farmer Participation
Spearman's rho	Motivation	Correlation Coefficient	1,000	.577 **
		Sig. (2- tailed)	.	.000
		N	46	46
	Participation Farmer	Correlation Coefficient	.577 **	1,000
		Sig. (2- tailed)	.000	.
		N	46	46

**. Correlation is significant at the 0.01 level (2- tailed).

The Spearman Rank correlation test results show that motivation has a positive and significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.577 and a significance value of 0.000 ($p<0.01$). This value indicates a moderate relationship, meaning that the higher the farmer's motivation, the higher their level of participation in the program's implementation. Based on interviews, farmers' motivation is influenced by the desire to increase plantation productivity, improve family welfare, strengthen cooperation within farmer groups, and utilize government-provided replanting assistance. This strong motivation encourages farmers to actively participate in every stage of the program, from planning and implementation, monitoring and evaluation, to post-replanting plant maintenance.

The results of this study align with those of Asidiq et al. (2022), who stated that farmers with high motivation tend to demonstrate greater involvement in oil palm rejuvenation programs. Furthermore, Apriadi et al. (2025) found that motivation is closely related to farmer participation in the implementation of the Reforestation Reforestation Program. Therefore, increasing motivation through mentoring and strengthening farmer group institutions is a crucial factor in supporting the program's success.

The Relationship Between Experience and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the Spearman rank correlation test calculations with the help of *IBM SPSS Statistics Version 22* are presented in table 5:

Table 5. Relationship between Experience and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Correlations

			Experience	Farmer Participation
Spearman's rho	Experience	Correlation Coefficient	1,000	.257
		Sig. (2- tailed)	.	.084
		N	46	46
	Participation Farmer	Correlation Coefficient	.257	1,000
		Sig. (2- tailed)	.084	.
		N	46	46

The Spearman Rank correlation test results indicate that farming experience has no significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.257 and a significance value of 0.084 ($p>0.05$). Despite showing a weak positive relationship, farming experience is not a major factor determining the level of farmer participation in the program.

Based on interviews, farmers who have been cultivating oil palm for a long time tend to feel they understand the technical aspects of cultivation, resulting in relatively lower involvement in program activities. Conversely, farmers with less experience demonstrated greater enthusiasm due to their continued need for information, guidance, and mentoring. These differences in characteristics mean that farming experience does not significantly correlate with overall farmer participation. These results align with Hutabarat (2021), who stated that farming experience cannot replace the importance of mentoring in implementing the PSR Program because it has specific technical and administrative aspects. Furthermore, Fangohoi et al. (2022) explained that the program's novelty can place both experienced and relatively new farmers in the same learning position, so participation is more influenced by mentoring and access to information than by length of farming experience.

The Relationship Between Internal Factors and the Level of Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Comprehensive testing of the four internal factors is presented in the Spearman correlation table as follows:

Table 6. Relationship between Internal Factors and the Level of Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

			Level of education	Opinion	Motivation	Experience	Participation Farmer
Spearman's rho	Level Education	Correlation Coefficient	1,000	.136	.381 *	.523 **	.308 *
		Sig. (2- tailed)	.	.368	.009	.000	.037
		N	46	46	46	46	46
	Income	Correlation Coefficient	.136	1,000	.598 *	.125	.187
		Sig. (2- tailed)	.368	.	.000	.408	.212
		N	46	46	46	46	46
	Motivation	Correlation Coefficient	.381 **	.598 **	1,000	.461 **	.577 **
		Sig. (2- tailed)	.009	.000	.	.001	.000
		N	46	46	46	46	46
	Experience	Correlation Coefficient	.523 **	.125	.461 *	1,000	.257
		Sig. (2- tailed)	.000	.408	.001	.	.084
		N	46	46	46	46	46
	Farmer Participation	Correlation Coefficient	.308 *	.187	.577 *	.257	1,000
		Sig. (2- tailed)	.037	.212	.000	.084	.
		N	46	46	46	46	46

The results of the Spearman Rank correlation test showed that of the four internal factors studied, only motivation (rs = 0.577; sig. = 0.000) and education level (rs = 0.308; sig. = 0.037) had a significant relationship with farmer participation in the People's Oil Palm Rejuvenation Program (PSR). Meanwhile, income (rs = 0.187; sig. = 0.212) and farming experience (rs = 0.257; sig. = 0.084) did not show a significant relationship. Among all internal factors, motivation is the strongest correlate of farmer participation. Interviews indicate that farmer involvement is driven by a desire to increase declining plantation productivity, maintain the sustainability of farming businesses, and improve family welfare. Meanwhile, education level is positively related to participation, as more educated farmers tend to better understand program procedures and are more active in seeking information. However, limitations in formal education can be addressed through adequate mentoring and guidance.

In contrast, income had no significant effect because the PSR Program provided financial assistance, giving farmers with varying income levels an equal opportunity to participate. Similarly, farming experience

showed no significant relationship because more experienced farmers tended to feel they had mastered cultivation techniques, while less experienced farmers were more active in seeking information and assistance. This resulted in no significant difference in the effect of experience on participation.

The Relationship Between Capital Assistance and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the Spearman rank correlation test calculations with the help of *IBM SPSS Statistics Version 22* are presented in the following table:

Table 7. Relationship between Capital Assistance and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

			Capital Assistance	Farmer Participation
Spearman's rho	Capital Assistance	Correlation Coefficient	1,000	.439 **
		Sig. (2- tailed)	.	.002
		N	46	46
	Participation Farmer	Correlation Coefficient	.439 **	1,000
		Sig. (2- tailed)	.002	.
		N	46	46

The Spearman Rank correlation test results indicate that capital assistance has a positive and significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.439 and a significance level of 0.002 ($p<0.01$). This value indicates that the better farmers' access to capital assistance, the higher their level of participation in the program's implementation. Based on interview results, capital assistance plays a supporting factor that facilitates farmers' replanting, particularly for felling costs, procuring superior seeds, and maintaining immature plants. However, farmer participation is not solely driven by financial assistance, but also by an awareness of the importance of rejuvenating aging plants experiencing declining productivity. This finding aligns with Alamanda et al. (2023), who stated that access to financing is a crucial factor in the success of oil palm rejuvenation programs. Maharani and Laksmono (2021) also emphasized that institutional support in facilitating access to capital can increase farmer engagement. Furthermore, Siahaan et al. (2020) demonstrated that financing through the BPDPKS (Regional Development Planning Agency) has expanded farmers' opportunities to participate in the PSR program. Therefore, capital assistance can be viewed as an enabling factor supporting farmer participation in oil palm rejuvenation programs.

The Relationship Between the Availability of Production Facilities and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

The data results obtained from the rank correlation test calculations Spearman with the help of *IBM SPSS Statistics Version 22* is presented in the following table:

Table 8. Relationship between Availability of Production Facilities and Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Correlations

			Availability Production Facilities	Farmer Participation
Spearman's rho	Availability Means Production	Correlation Coefficient	1,000	.621 **
		Sig. (2- tailed)	.	.000
		N	46	46
	Participation Farmer	Correlation Coefficient	.621 **	1,000
		Sig. (2- tailed)	.000	.
		N	46	46

**. Correlation is significant at the 0.01 level (2- tailed).

The results of the Spearman Rank correlation test indicate that the availability of production facilities has a positive and significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR), with a correlation coefficient (rs) of 0.621 and a significance value of 0.000 ($p<0.01$). This value indicates a strong relationship and is the highest correlation among all the variables studied. This indicates that the easier farmers' access to production facilities, especially superior seeds, fertilizers, and herbicides, the higher their level of participation in the program's implementation.

Based on interviews, the availability of quality seeds is the most crucial factor because all stages of replanting, from land preparation to replanting, depend heavily on adequate and timely production facilities. Limited or delayed provision of seeds and other production inputs has the potential to hamper program implementation and reduce farmer participation. This finding aligns with Hutabarat (2021), who stated that access to quality production inputs is a crucial factor in supporting the success of PSR. Sari and Prihatin (2024) also emphasized that the smooth distribution of production inputs influences farmer involvement in the program. Furthermore, Siahaan et al. (2023) found that easy access to production inputs is closely correlated with farmers' willingness to participate in oil palm rejuvenation activities.

The Relationship Between External Factors and the Level of Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

Comprehensive testing of these two external factors is presented in the Spearman correlation table as follows:

Table 9. Relationship between External Factors and the Level of Farmer Participation in the Implementation of the People's Oil Palm Rejuvenation Program (PSR)

			Capital Assistance	Availability of Facilities Production	Farmer Participation
Spearman's rho	Capital Assistance	Correlation Coefficient	1,000	.890 **	.439 **
		Sig. (2- tailed)	.	.000	.002
		N	46	46	46
	Availability of Facilities Production	Correlation Coefficient	.890 **	1,000	.621 **
		Sig. (2- tailed)	.000	.	.000
		N	46	46	46
	Participation Farmer	Correlation Coefficient	.439 **	.621 **	1,000
		Sig. (2- tailed)	.002	.000	.
		N	46	46	46

The results of the Spearman Rank correlation test indicate that both external factors, namely capital assistance and the availability of production facilities, have a positive and significant relationship with farmer participation in the Smallholder Oil Palm Replanting Program (PSR). The availability of production facilities has a stronger relationship ($rs = 0.621$; $p < 0.01$) than capital assistance ($rs = 0.439$; $p < 0.01$). These results indicate that the better farmers' access to production facilities and financial support, the higher their level of participation in program implementation.

Based on the interview results, the availability of certified superior seeds is the most crucial factor because it is a key component in the entire plantation rejuvenation process. Meanwhile, capital assistance serves as a supporting factor, making it easier for farmers to finance rejuvenation activities. Furthermore, the very strong correlation between capital assistance and the availability of production facilities ($rs = 0.890$) indicates that these two factors complement each other and need to be available simultaneously for optimal implementation of the PSR Program. These findings confirm that the success of the PSR Program depends not only on financial support, but also on the availability of adequate and timely production facilities as the main factor encouraging farmer participation in oil palm rejuvenation activities (Hutabarat, 2021; Sari & Prihatin, 2024; Siahaan et al., 2020).

CONCLUSION

Based on research results in Teluk Panji I Village, Kampung Rakyat District, South Labuhanbatu Regency, it can be concluded that the level of farmer participation in the People's Oil Palm Replanting Program (PSR) is relatively high at 79.8%. This high level of participation indicates active farmer involvement in various stages of the program, from planning and implementing replanting activities, monitoring and evaluation, to utilizing program results. This condition is driven by farmers' awareness of the importance of rejuvenating oil palm plants that have decreased productivity and the hope of increasing plantation productivity and family welfare in the future.

The results of the Spearman Rank Correlation test showed that motivation ($rs = 0.577$), education level ($rs = 0.308$), capital assistance ($rs = 0.439$), and availability of production facilities ($rs = 0.621$) had a significant relationship with farmer participation in the PSR Program. Among these factors, the availability of production facilities was the most dominant factor because it directly supported the smooth implementation of rejuvenation activities. In contrast, income ($rs = 0.187$) and farming experience ($rs = 0.257$) did not show a significant relationship with farmer participation. This indicates that the success of farmer participation is more influenced by motivation, access to information, capital support, and the availability of production facilities than by economic conditions or length of farming experience.

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