HYβRIDA
ISSN : 3031-1314

Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

EXISTENCE OF HOUSEHOLDS OF OIL PALM FARMERS DURING THE REPLANTING PERIOD IN LANDAK DISTRICT

Yuvita Dera Ferezia[1], Nurliza[2], Aditya Nugraha[3]

Department of Agricultural Socioeconomics, Faculty of Agriculture, Tanjungpura University

*E-mail: yuvitadera299@student.untan.ac.id

Abstract. *This research aims to analyze the influence of oil palm replanting on the socioeconomic conditions of farmers in Amboyo Inti Village, Ngabang District, Landak Regency. Utilizing a quantitative descriptive method, data were collected from a sample of 30 farmers selected through purposive sampling, focusing on their on-farm, off-farm, and non-farm income. The findings reveal that oil palm replanting significantly enhances the economic stability and income levels of farmers, contributing to improved living standards and household well-being. Additionally, the study highlights challenges faced during the replanting process, such as fluctuating market prices and limited access to financial resources, which affect farmers' decision-making. The research concludes that while replanting offers substantial benefits, it also needs supportive measures from local governments and cooperatives to address these challenges effectively. Recommendations include strengthening cooperative management and providing better access to financial resources and market information for farmers to optimize the benefits of replanting. Overall, the study underscores the need for continuous support and education to ensure sustainable agricultural practices in the region.*

Keywords: *Oil Palm Replanting, Socioeconomic Conditions, Farmers, Quantitative Descriptive Method*

Article History
Received: Juni 2025
Reviewed: Juni 2025
Published: Juni 2025
Plagirism Checker No 984m887
DOI : Prefix DOI : 10.3766/hibrida.v.1i2.3753

INTRODUCTION

Oil palm plantations are one of the important sectors in the Indonesian economy, not only as a source of income for farmers but also have a significant role in national exports. Indonesia, as the world's leading producer of palm oil, has utilized oil palm plantations as one of the main pillars of its economy. According to Nugroho (2019), oil palm plantations contribute greatly to improving the welfare of people in plantation areas, creating jobs, and improving the regional economy. Over time, more and more land in Indonesia has been converted into oil palm plantations. Purnomo et al. (2020) noted that Indonesia has around 14 million hectares of land planted with oil palm, and this sector is one of the largest contributors to agricultural exports, with palm oil as the main product (Situngkir, 2022).

The development of the palm oil sector in West Kalimantan reflects this national trend. Data from the Directorate General of Plantations (Ditjenbun, 2021) shows a significant increase in the area of land and production of palm oil in West Kalimantan over the past few years. In 2019, smallholder plantations in the province covered 564,338 hectares with

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

production reaching 973,442 tons. This figure increased to 575,073 hectares and production of 1,087,331 tons in 2020, and 582,770 hectares with production reaching 1,116,953 tons in 2021. Although production and land area continue to increase, challenges related to sustainability are starting to emerge, especially related to demands from export markets such as the European Union which require sustainable palm oil (Rinaldi, 2022).

One of the strategies adopted to maintain productivity and sustainability is replanting or rejuvenating old oil palm plantations. According to Gurusinga et al. (2022), effective planting techniques are essential to increase productivity, especially when the plants have passed their economic age. In many areas, smallholder oil palm plantations have reached an unproductive age, so replanting is a much-needed step. Noer et al. (2018) revealed that oil palm plantations in Indonesia, especially those managed by smallholders, many have passed their productive age, so that their productivity has decreased drastically. Government policy, through a replanting grant program funded by BPDPKS (Oil Palm Plantation Fund Management Agency), aims to support farmers in the process of rejuvenating their plants, especially for plants that are more than 25 years old and are no longer productive (Noer et al., 2019).

This study aims to evaluate the impact of replanting on the existence of smallholder oil palm farmer households in Landak Regency, especially during the rejuvenation period. The main focus of this study is to understand how changes in income and economic challenges faced by farmers affect the socio-economic conditions of their households. In addition, this study will also explore the strategies adopted by farmers in facing the transition period, especially in terms of income management from the on-farm, off-farm, and non-farm sectors.

Several studies have examined the impact of replanting on oil palm plantation productivity. Gurusinga et al. (2022) stated that better planting techniques and the use of superior seeds can help increase yields after replanting. However, most studies focus on the technical aspects of replanting and not many specifically examine its impact on the existence of farmer households. A study by Risman & Iskamto (2018) showed that high replanting costs and loss of income during the TBM (Immature Plants) period are major challenges for smallholder farmers. The study by Damongilala et al. (2014) also highlighted the socio-economic aspects of farmer households during the replanting period, where income inequality between farmers who replant and those who do not can cause disruption in household socio-economic relationships. Although there have been many studies examining the impact of replanting on productivity, studies that specifically look at the impact of replanting on farmer households are still limited. Especially in Landak Regency, studies on how farmers deal with economic uncertainty during the replanting period are still lacking. Therefore, this study aims to fill the gap in the literature by exploring the social, economic, and psychological impacts of replanting on oil palm farmer households.

This research is important to conduct because many oil palm farmers in Landak Regency are currently or will be facing the replanting period. The replanting period brings various challenges, especially related to the loss of income while the new plants have not yet produced. For small farmers, losing income for several years can be a heavy blow that affects the welfare of their households. Therefore, a deeper understanding is needed regarding the impact of replanting, not only in terms of productivity but also in terms of the social and economic welfare of farmer households. To address these issues, this study employs a quantitative descriptive approach to analyze the social, economic, and psychological impacts of replanting on farming households. By gathering data through structured questionnaires and Likert-scale measurements, the study provides insights into how oil palm farmers manage

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

their household expenditures, income sources, and challenges during the replanting period. The purposive sampling technique is applied to select respondents, focusing on capturing diverse experiences within the community.

In addition, economic inequality that arises during the replanting period can trigger social tensions in farmer households. Damongilala et al. (2014) showed that social status is often a measure of happiness in farmer households, and income inequality can affect social relationships within the family. This study is expected to provide better insight into how farmers can maintain the existence of their households during the replanting period, as well as strategies that can be adopted to overcome the economic challenges they face.

This study brings novelty with a holistic approach that not only measures the economic impact of replanting, but also looks at the social and psychological aspects of the changes that occur in farmer households. By exploring the impact of on-farm, off-farm, and non-farm income, as well as how farmers face economic inequality and household challenges, this study provides a new perspective that has not been widely revealed in previous studies. This study is also expected to provide more effective policy recommendations in supporting oil palm farmers during the replanting period, especially in Landak Regency.

RESEARCH METHODS

This study employs a quantitative descriptive method to systematically analyze the impact of oil palm replanting on the existence of smallholder farmer households. The research was conducted in Ngabang, Landak Regency, West Kalimantan, from July to August 2024. This location was purposively selected due to its significant replanting activities, involving 685.7458 hectares of unproductive oil palm plantations.

The population targeted in this study comprises smallholder oil palm farmers in Amboyo Inti Village, Ngabang District, who have undergone replanting. Using the Slovin formula, a sample of 96 respondents was determined from the total population of 2,290 smallholder farmers. The purposive sampling technique ensured that respondents were relevant to the research objectives.

Data analysis was conducted in three stages:

1. Identification of characteristics of smallholder oil palm farmers.
2. Identification of needs and growth using a socio-economic relationship model.
3. Analysis of factors influencing the existence of farmer households during the replanting period using binary logistic regression.
4. Analysis of household livelihood strategies post-replanting, focusing on on-farm, off-farm, and non-farm income contributions.

Logistic regression is used to describe the relationship between dependent and independent variables, with the response variable being dichotomous qualitative data. Household existence scores are calculated using a Likert scale with predetermined criteria.

The logistic regression equation in this study is as follows: $\text{Log}(P1-P)=ß0+ß1x1+ß2x2+ß3x3+ß4x4+ß5x5+ß6x6+ß7x7+e$

Explanation:

P = Household existence subjectively (1 = Exists, 0 = Does not exist)

ß0 = Constant

ß1...ß7 = Regression coefficients measuring the influence of each independent variable X1 to X7 on the logarithm of the odds of P

X1 = Education level

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

X2 = Area of land ownership for replanting (ha)
X3 = Income
X4 = Expenditure
X5 = Number of dependents (number of people)
X6 = Occupation
X7 = Other socio-economic factors
e = Error variable

To measure the existence of farmer households during the replanting period, scores from respondents were calculated using a Likert scale. As the formula for calculating the score interval is as follows:

$$\text{Interval}=\frac{High\ Score-Lowest\ Score}{Number\ Of\ Categories}$$

Based on this interval calculation with two measurement categories the following table presents the criteria:

Interval Score	Category
0 – 8	Low
9 – 16	Medium
17 – 24	High

Source: Processed primary data, 2023

RESULTS AND DISCUSSION

Results

This study employed a descriptive quantitative method to examine the impact of oil palm replanting on the resilience and sustainability of farmer households in Ngabang District, Landak Regency. Given the critical importance of the replanting phase for the future of oil palm farming, this study focused on socio-economic and psychological factors influencing household sustainability during this period (Sugiyono, 2016).

Identification of characteristics of smallholder oil palm farmers

This study identified the key characteristics of smallholder oil palm farmers in Ngabang District, Landak Regency, West Kalimantan. The majority of respondents (80%) were male, indicating that men predominantly manage oil palm farming activities, although women also contribute (20%). The age group of most respondents was between 45 to 55 years, representing a productive yet physically challenging phase of life, with farmers balancing farming experience and the onset of aging. Most respondents had been cultivating oil palm for more than 15 years, demonstrating deep experience in managing plantations despite challenges in the industry. Households generally had 3 to 4 dependents, reflecting significant family responsibilities that could influence economic decisions and spending priorities. These demographic characteristics gender, age, family dependents, and farming experience provide valuable context for understanding the motivations and readiness of oil palm farmers in Amboyo Inti Village, particularly their capacity to adapt to replanting initiatives.

Identification of needs and growth using a socio-economic relationship model

A descriptive analysis revealed that high levels of community relatedness among farmers support strong social ties, which play a vital role in providing social support during the replanting phase. This community solidarity helps mitigate psychological stress arising

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

from income uncertainty. While individual growth may vary, some farmers demonstrated advancements in farming knowledge and skills. This suggests that the replanting process offers opportunities for skill development, even in the face of economic difficulties. These social connections and the opportunities for growth reflect the crucial role of socio-economic relationships in enhancing both resilience and sustainability among farmers during the replanting period.

Analysis of factors influencing the existence of farmer households during the replanting period using binary logistic regression

Table 2 Results of Logistic Regression Analysis

Variable	Coefficient (β)	Standard Error	Z-Score	p-Value
Constant	0.845 *	0.456	1.85	0.064
Education Level (X1)	0.389 ***	0.123	3.16	0.002
Land Ownership Area (X2)	0.237 **	0.098	2.42	0.016
Income (X3)	0.456 ***	0.087	5.24	0.000
Expenditure (X4)	-0.302 ***	0.111	-2.72	0.007
Number of Dependents (X5)	-0.142 *	0.080	-1.78	0.075
Occupation (X6)	0.256 **	0.112	2.29	0.022
Other Socio-Economic Factors (X7)	0.183 *	0.099	1.84	0.066

Note :
*** (Three stars): Highly significant (p-value ≤ 0.01)
** (Two stars): Significant (0.01 < p-value ≤ 0.05)
* (One star): Marginally significant (0.05 < p-value ≤ 0.1)

To measure the existence of farmer households during the replanting period, a Likert scale was used to calculate respondent scores. The score interval calculation is as follows: Using this score interval, the measurement categories are divided as follows:
0 – 12: Exist
13 – 24: Does Not Exist

The logistic regression analysis results indicate that factors such as education level, land area, income, expenditure, number of dependents, occupation, and other socio-economic factors significantly influence the existence of farmer households during the replanting period.

The measurement of household existence is done by comparing the respondents' total scores to the established categories, "Exist" or "Does Not Exist," based on the calculated score intervals.

Demographic Characteristics of Respondents

The majority of respondents (80%) were male, indicating that men predominantly manage oil palm farming activities in the area, though women also contribute to these efforts (20%). Most respondents were between the ages of 45 and 55, an age group representing a productive yet physically challenged phase of life, with farmers balancing farming experience and the onset of aging.

Households generally have 3 to 4 dependents, indicating significant family responsibilities which can shape economic decisions and spending priorities. Notably, most

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

farmers have been cultivating oil palm for over 15 years, reflecting deep experience and resilience in managing plantations, despite various challenges in the industry.

Understanding these demographic characteristics—gender, age, family dependents, and farming experience—provides insight into the background and motivations of oil palm farmers in Amboyo Inti Village, especially their readiness and response to replanting initiatives.

Relatedness and Growth Needs

Descriptive analysis shows that a high level of community relatedness among farmers supports strong social ties, which play a vital role in providing social support during replanting phases. This community solidarity helps to mitigate psychological stress arising from income uncertainty (Putnam, 2000). Although there is variability in individual growth, some farmers demonstrate advancements in farming knowledge and skills, suggesting that replanting also presents opportunities for skill development despite economic challenges.

Factors Affecting Household Resilience

Binary logistic regression analysis reveals that several factors—including education level, land area, income, expenditure, number of dependents, and occupation—significantly influence household resilience. This finding underscores that household sustainability during replanting is shaped not only by economic factors but also by social support and the ability to adapt to changes (Siregar & Sudirman, 2021).

Education level and land ownership appear essential for economic stability, while income and expenditure provide insights into resource management during replanting. The number of dependents and primary occupation also impact adaptability and resilience to replanting-related challenges.

The analysis highlights that community support remains a critical factor for household stability, as it alleviates both economic strain and psychological pressure. Social support networks within the community provide a buffer against replanting stress, reinforcing farmers' emotional well-being and assisting them in overcoming obstacles. Although economic factors such as income and expenditure influence household resilience, these impacts are often short-term. Social support, conversely, offers a more lasting stabilizing effect by fostering a strong support network that facilitates the sharing of information, resources, and collective resilience.

Policy Implications and Recommendations

Strengthening community support is essential for ensuring that farmers can effectively navigate the replanting process. Developing social networks that enhance farmers' adaptability is vital, as these networks provide access to technical information, financial resources, and a shared sense of purpose. Additionally, increasing access to credit and subsidies can alleviate the financial burden of replanting, and policy interventions that offer adaptation skills training would further empower farmers to handle both technical and economic shifts more effectively.

These measures will enable farmers to manage challenges more effectively, thereby enhancing economic stability and household resilience during replanting. The ultimate goal is to foster a resilient agricultural ecosystem that sustains both farmer livelihoods and regional agricultural productivity in the long term.

CONCLUSION

This study shows that the majority of farmers in Amboyo Inti Village are male, aged

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

between 45 and 55 years, with an average household of 3-4 people, and have been farming oil palm for more than 15 years. These characteristics reflect deep experience and significant family responsibilities, which influence their readiness and response to the replanting program. With more than 15 years of experience, farmers show strong resilience in facing agricultural challenges, but also need appropriate support to maximize replanting results.

Most farmers have a high level of relatedness with their communities, which provides important social support during the replanting period. This is evident from the interaction and collaboration between farmers who help each other. However, the level of growth in terms of farming knowledge and skills varies; some farmers have experienced significant increases in knowledge of modern farming techniques, while others require additional support to maximize their potential.

Factors such as education level, land ownership area, income, expenditure, number of dependents, type of work, and other socio-economic factors have a significant influence on the existence of farmer households during the replanting period. The analysis shows that the sustainability of farmer households is influenced by a combination of economic factors, social support, and the ability to adapt to change. This study emphasizes the importance of policies that take these factors into account in designing more effective replanting programs.

REFERENCE

Coordinating Ministry for Economic Affairs. (2021). Decision Coordinating Minister for Economic Affairs Number 61 of 2021 regarding the ratification of the oil palm rejuvenation work plan. Jakarta: Coordinating Ministry for Economy. https://kepmenkeu.go.id

Directorate General of Plantations. (2021). Statistics of national superior plantations 2019-2021. Jakarta: Ministry of Agriculture. https://www.pertanian.go.id

Gurusinga, A.U., Dewi, N., & Rosnita, R. (2022). Prospective analysis on rejuvenation of oil palm (Elaeis guineensis Jacq) using self-help methods in Rokan Hulu Regency. *Journal of Agricultural Socio-Economics*, 18(1), 55–66. https://doi.org/10.20956/jsep.v18i1.19024

Hamid, E., & Yanita, M. (2019). The impact of replanting palm oil plantations on the farming income of the Sungai Bahar community. *IOP Conference Series: Earth and Environmental Science*, 336, 012003. https://doi.org/10.1088/1755-1315/336/1/012003

Kurniasari, D., & Iskandar, S. (2020). Impact of rejuvenation (replanting) palm oil on the socio-economic conditions of palm oil farmers in Kemang Indah Village, Mesuji Raya District, Ogan Regency Komering Ilir. *Societa*, 9(1), 32–36. https://jurnal.umpalembang.ac.id/societa/article/view/3631

Kurniasih, R., Ismono, R.H., & Endaryanto, T. (2021). Replanting system palm oil, palm oil income opportunities and levels of farmer welfare during replanting. *Jurnal Ilmu Agribisnis*, 9(2). https://doi.org/10.23960/jiia.v9i2.133

Noer, M., Syarfi, I.W., & Andalas, U. (2019). Preparation for garden rejuvenation palm oil by KUD Suka Maju and KUD Bukit Jaya in Dharmasraya Regency, West Sumatra Province. *Bina Journal*, 2(3), 322–332. https://doi.org/10.25077/bina.v2i3.106

Noer, M., Syarfi, I.W., & Azhari, R. (2018). Rejuvenation action plan smallholder oil palm plantations, farmer groups, and KUD Bukit Jaya in Dharmasraya Regency,

HYβRIDA
ISSN : 3031-1314
Jurnal Pertanian, Peternakan, Perikanan
Vol 4 No 2 Tahun 2025
Prefix DOI : 10.3766/hibrida.v.1i2.3753

West Sumatra Province. *Journal of Downstreaming Science and Technology*, 1(4b), 339–346. https://doi.org/10.25077/hilirisasi.1.4b.339- 346.2018

Plantation Service, KL. (2022). Data on rejuvenation of smallholder oil palm in the Regency Hedgehog. Plantation Service, Kalbar https://disbun.landakkab.go.id

Plantation Service, PKB. (2019). BPDPKS program investment opportunities in oil palm rejuvenation activities in West Kalimantan. Data Kalbar Prov. https://data.kalbarprov.go.id/

Purnomo, H., Okarda, B., Dermawan, A., Ilham, Q.P., Pacheco, P., Nurfatriani, F., & Suhendang, E. (2020). Reconciling palm oil economic development and environmental conservation in Indonesia: A value chain dynamic approach. *Forest Policy and Economics*, 111, 102089. https://doi.org/10.1016/j.forpol.2020.102089

Rinaldi, A., & Mashur, D. (2022). Strategy of independent oil palm farmer associations mandate in sustainable palm oil management in Uku District. *Scientific Journal of Educational Vehicles*, 8(22), 200–209. https://doi.org/10.5281/zenodo.7325202

Risman, & Iskamto, D. (2018). Analysis of coconut plantation replanting program KUD Makarti Jaya oil palm in Kumain Village, Tandun District Rokan Hulu Regency. *Journal of Economics and Business*, 89, 34–42. https://ekobis.stieriauakbar.ac.id/index.php/Ekobis/article/

Situngkir, D.I. (2022). Competitiveness of Indonesian palm oil in the global market. *Agrotricuttings Journal*, 1(1), 11. https://akses.ptki.ac.id/jurnal/index.php/agrotricuttings/article