Vol. 15, No. 1 (2026): 135 - 145 http://dx.doi.org/10.23960/jtepl.v15i1.135-145

JURNAL TEKNIK PERTANIAN LAMPUNG

ISSN 2302-559X (print) / 2549-0818 (online)
Journal homepage : https://jurnal.fp.unila.ac.id/index.php/JTP

Factors Affecting the Extent of Agricultural Land Conversion on the Household Economy of Rice Farmers

Rezza Hardanovita[1], Nuriah Yuliati[1,✉], Gyska Indah Harya[1]

[1] Department of Agribusiness, Faculty of Agriculture, Universitas Pembangunan Nasional "Veteran", Jawa Timur, Surabaya, INDONESIA.

Article History:

Received : 22 April 2025
Revised : 29 July 2025
Accepted : 8 August 2025

Keywords:

Factors,
Household economy,
Land conversion.

Corresponding Author:
✉ nuriah_y@upnjatim.ac.id
(Nuriah Yuliati)

ABSTRACT

Agricultural land conversion not only threatens the sustainability of the farm sector, but also influences the socioeconomic conditions of farmer. The purpose of this study is to examine the external and internal factors affecting agricultural land conversion on the household economy of rice farmers. Using a quantitative survey approach, this study collected primary data from 30 rice farmers in Kloposepuluh Village, Sidoarjo Regency, selected through purposive sampling. Secondary data were obtained from official sources, including government agencies and regional planning documents. The influence of independent variables on land conversion was examined using multiple linear regression analysis. Results show some variables significantly influence on land conversion, including land area ownership, influences from developers and other farmers, employment opportunities, and economic pressures. These variables encourage farmers to convert their land to non-farm uses. On the other hand, land conversion is not significantly affected by government policy variables, indicating the weak effectiveness of policy interventions in controlling land conversion. The results highlight the need for the government to play an active role in enhancing agricultural land protection policies by adopting more adaptive and participatory strategies. Furthermore, providing economic incentives and safeguarding farmers is expected to reduce the economic pressures that lead to land conversion.

1. INTRODUCTION

The agricultural sector plays a vital role in human life, particularly in Indonesia as an agrarian country. This contribution of farm sector to economic resilience and public welfare is significant, as reflected in the 2024 information sourced from the Central Statistics Agency (BPS, 2024), which recorded that 28.64% of total workforces in of Indonesia are working in the agricultural sector. Efforts to protect agricultural land have been undertaken by the government through Act No. 41 of 2009 concerning the Protection of Sustainable Food Agricultural Land. Nevertheless, the conversion of agricultural land into non-agricultural purposes continues to rise, mainly driven by population growth and increasing housing demands. This is because both the agricultural sector and housing development play a vital role in fulfilling human needs.

Agriculture refers to human activities that utilize biological resources to produce food, industrial materials, and energy, while also supporting environmental sustainability (Harya *et al*., 2023a; Harya *et al*., 2023b; Harya *et al*., 2020). Agricultural land conversion change in land use from the agricultural sector to other sectors, either partially or completely, which often hurts the environment and land potential. Generally, this land conversion is triggered by population growth, which increases the need for land for settlements and public facilities (Jean *et al*., 2020).

This land conversion phenomenon is a serious problem, with the annual agricultural land conversion in Indonesia reaching 100,000 ha, whereas the expansion of new rice fields reaches only about 30,000 ha annually. The increasing

demand for land for residential development is causing pressure on agricultural land in many places. Rice paddies that were previously the main source of livelihood for farmers are now being converted into residential areas due to the increasing need for residential development. This change occurs due to rapid population growth, urbanization, as well as economic pressures that encourage farmers to sell their land to developers at relatively high prices.

Land conversion not only reduces harvested area and food production but also causes changes livelihoods and decline incomes of the farmers. Factors influencing this land conversion include economic aspects, land use planning policies, and rapid population growth. Therefore, this study was conducted to analyze the driving factors behind agricultural land conversion and to assess their impact on the economic conditions of rice-farming households in Kloposepuluh Village, Sukodono District, Sidoarjo Regency, East Java Province. It is hoped that the findings of this research will assist the government and local communities in formulating policies that effectively reconcile development objectives with the sustainability of the agricultural sector (Corolina *et al*., 2014).

2. MATERIALS AND METHODS

This study was carried out from January to February 2025 in Kloposepuluh Village, Sukodono District, Sidoarjo Regency. The village was selected as the research location considering that in Sukodono District it was one of the regions that has the largest farmer population in the district. (Table 1), and that the area had problems in converting agricultural land from rice fields to housing. The population in this study was all rice farming households that had converted agricultural land into other uses (especially housing), with a population of 43 farmers. A non-probability sampling method was applied in this study, meaning that not every member of the population had an equal opportunity to be selected as a respondent. The respondents were selected purposively. This sampling technique requires certain considerations in determining samples for a specific purpose (Sugiyono, 2020). Certain considerations in determining the sample for this study are:

1) Rice farmers in Kloposepuluh Village considering that the majority of rice fields have been converted into residential areas.
2) The respondents for this research consist of married rice farmers from Kloposepuluh Village who have undergone agricultural land conversion.

Table 1. Number of farmaers in villages in Sukodono District with experience on land conversion

Village Name	Number of Farmers (People)	Percentage (%)
Suruh Village	106	58.56
Kloposepuluh Village	43	23.76
Mesanganwetan Village	32	17.68
Population Size	**181 Farmers**	**100%**

The sample size (n) was determined from farmer population size (N) using the Slovin formula as presented in Equation (1) (Tunru *et al*., 2023). According to data acquired from the Agricultural Extension Agency (BPP) of Sukodono District, it is known that the total population of rice farmers in Kloposepuluh Village is 43. The calculation of the sample of respondents was determined through the Slovin formula with a 10% error margin. The findings of this study involved 30 respondents, consisting of rice farmers from Kloposepuluh Village, Sukodono District, Sidoarjo Regency, who were married and directly affected by the conversion of agricultural land into residential areas. The respondents were selected purposively based on certain considerations, namely farmers who experienced the impact of land conversion (Harya *et al*., 2024a; Harya *et al*., 2024b; Sugiyono, 2020). This method provides an equal opportunity for every rice farmer household in the area to be selected as a sample, as long as they meet the established criteria.

$$n = \frac{N}{1+N\,(e)2} \quad (1)$$

2.1. Validity Test

Validity testing aims to assess the extent to which an instrument, such as a questionnaire, is considered effective in accurately capturing the variables analyzed. A questionnaire is declared valid if each question item accurately represents the construct being studied, so that the data obtained can be relied upon to support research conclusions. The validity test was performed by comparing each item's r coefficient with the corresponding r-table value at a 5% significance level ($\alpha = 0.05$). An item was regarded as valid when its r coefficient exceeded the table value and demonstrated a positive correlation with the overall score. Conversely, items with r coefficients below the table value were classified as invalid and required revision or removal to maintain the accuracy of the instrument (Ghozali, 2018).

2.2. Reliability Test

Reliability indicates the extent to which an instrument is trustworthy and produces consistent data. An instrument is regarded as reliable when it yields consistent results under repeated measurements in the same conditions. For this reasearch, Cronbach's Alpha was applied to determine the reliability of the questionnaire to measure internal consistency among items. The Cronbach's Alpha coefficient below 0.6 indicates low reliability, a value around 0.7 is considered acceptable, and values above 0.8 reflect good reliability. Higher alpha values indicate greater consistency and accuracy in measurement (Sugiyono, 2020).

2.3. Multiple Linear Regression Analysis

Multiple Linear Regression is a statistical analysis method used to evaluate the correlation between a single variable that influences (Y) and two or more variables that do not influence (X_1, X_2, X_3, etc.). Systematically, a multiple linear regression model in this study is written as:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e \quad (2)$$

where Y represents the area of agricultural land conversion, X_1 is influence of other farmers, X_2 is influence of developers, X_3 is government policy, X_4 is employment opportunities in other sectors, X_5 is area of land ownership, X_6 is economic pressure, with a as the intercept, b as the coefficient of the independent variable, and e as the residual or confounding factor.

The precision of the sample regression function in predicting actual outcomes can be evaluated using the F-statistic, t-statistic, and the coefficient of determination.

2.3.1. The *F*-Test

An F-test was conducted to test the research hypotheses in multiple linear regression analysis. This test determines whether at least one independent variable simultaneously affects the dependent variable (Iba & Wardhana, 2024). Results of the F test were displayed in the ANOVA table in the Sig. column with the following criteria:

1. If the probability is less than 0.05, it means the explanatory variables collectively exert a statistically significant influence on the response variable.
2. If the probability exceeds 0.05, it implies that the independent variables do not show a statistically significant joint effect on the dependent variable.

2.3.2. The *t*-Test

The t-test was applied to test individual hypotheses in multiple linear regression analysis. This test is used to partially examine each independent variable and determine whether it has a significant effect on the dependent variable in the regression model (Wahid *et al*., 2023; Iba & Wardhana, 2024). The t-test findings are shown in the coefficients table under the sig. column, with the following criteria:

1. When the probability is less than 0.05, the independent variable is considered to exert a partial effect on the dependent variable.

2. When the probability exceeds 0.05, the independent variable is deemed not to have a partial effect on the dependent variable.

2.3.3. Coefficient of Determination

In a regression model, the coefficient of determination indicates how much of the variation in the dependent variable can be accounted for by the independent variables. When R^2 equals 1, the independent variables completely explain the changes in the dependent variable. Conversely, an R^2 of 0 shows that the independent variables do not explain any variation in the dependent variable (Iba & Wardhana, 2024).

3. RESULTS AND DISCUSSION

3.1. Respondent Characteristics

Kloposepuluh Village covers an area of 226,322 square kilometers. It consists of four hamlets: Kloposepuluh Hamlet, Bulang Hamlet, Pasegan Hamlet, and Wonokoyo Hamlet. It also has seven community associations (RW) and 33 neighborhood associations (RT). According to the data provided by Kloposepuluh Village Office, total rice paddy area still functioning as agricultural land is only approximately ±39.00 hectares. The characteristics of the 30 respondents affected by land conversion in this study were grouped based on six parameters, namely: age, education level, farming experience, land ownership, number of family dependents, and income level. These findings are presented as follows:

1) Age

The age in this study refers to the age of the farmers from 30 respondents who have varying age levels. The age range in this study starts from 39 years to over 70 years. Based on the data, it is known that the number of respondents aged 39-50 years was 6 people, 51-60 years was 8 people, 61-70 years was the largest group with 10 people, and those aged over 71 years were 6 people. This data shows that the majority of farmers in Kloposepuluh Village are over 39 years old, indicating the minimal participation of the younger generation in the agricultural sector (Marpaung *et al*., 2024).

2) Education level

Farmers who took part in this study possessed different levels of education. Based on the data, the majority (15) had only completed elementary school, followed by 5 with junior high school, 7 with high school education, and only 3 holding a bachelor's degree, which indicates that the farming community that decided to convert land use was dominated by farmers with relatively short educational attainment (Wanimbo, 2019).

3) Farming experience

Farming experience is measured by the length of time farmers have been involved in the agricultural sector. The farming experience of the respondents varied across different ranges: three had less than 10 years, nine between 11 and 20 years, six between 21 and 30 years, five between 31 and 40 years, and the remaining four had the longest experience, spanning 41 to 50 years (Kumbadewi *et al*., 2021).

4) Land ownership

This land area represents the total agricultural land owned by rice farmers in Kloposepuluh Village. Based on data, 15 farmers own 0.4–0.8 hectares of land, the largest number of respondents. Five farmers own 0.9–1 hectares, while 10 respondents own 1.1–2 hectares. Agricultural land area refers to the total area used for agricultural activities (Dahlia *et al*., 2024).

5) Number of family dependents

The farmer's dependents are represented by the total number of family members relying on them. Farmers involved in this study have differing numbers of family dependents. The data shows that respondents with one dependent had the fewest number of dependents, with only four. Respondents with two dependents had the largest number, with 15. Five respondents had three dependents, and the remaining six had four dependents. The average number of dependents in

Kloposepuluh Village farmers' families was two, as most households consisted of only the farmer and his wife (Utari *et al*., 2022).

6) Income

Income level is the net income of farmers derived from farming before the conversion of rice farming land. Based on the data, income earned by farmers varies. According to respondents, this is due to different land areas and selling prices for each farmer. Most respondents have an income level of 51-70 million rupiah per year, with a total of 12 farmers or 40% of the total respondents. A total of 7 respondents, or 23% of the total respondents, have an income level between 25-50 million rupiah per year. Income of 71-90 million rupiah per year, with a percentage of 27% (8 respondents). The highest income of around 91-100 million rupiah per year has the smallest percentage, namely 3 respondents (Saragih & Panjaitan, 2020). Farmers' income comes from outside the agricultural sector, and some have side jobs as an additional source of income. Some types of non-agricultural jobs undertaken include factory employees, construction workers, cattle breeders, and running other small businesses. This additional work is a form of household economic diversification strategy to meet daily needs and reduce dependence on agricultural products.

3.2. Validity Test

To evaluate the relevance of the questionnaire items to the research objectives, the study assessed validity using SPSS software with data from 30 respondents. Each item's correlation with the total score was compared to the r-table value of 0.361. Following Ghozali (2018), an item is deemed valid when its calculated r value exceeds the r-table and is positive. Fourteen questionnaire items were tested, and the analysis showed that all items had r values above 0.361, confirming their validity. The detailed results of the validity test are presented in Table 2.

Table 2. Validity test results

Variable	Symbol	*r*-calculated	*r*-table	Remark
Influence of other Farmers	X1.1	0.465	0.361	VALID
	X1.2	0.383	0.361	VALID
Influence of the Developer	X2.1	0.469	0.361	VALID
	X2.2	0.401	0.361	VALID
Government Policy	X3.1	0.382	0.361	VALID
	X3.2	0.403	0.361	VALID
Job Opportunities in other Sectors	X4.1	0.447	0.361	VALID
	X4.2	0.424	0.361	VALID
Area of Land Ownership	X5.1	0.479	0.361	VALID
	X5.2	0.390	0.361	VALID
Economic Crush	X6.1	0.415	0.361	VALID
	X6.2	0.379	0.361	VALID
Area of Land Conversion	Y1.1	0.377	0.361	VALID
	Y1.2	0.434	0.361	VALID

3.3. Reliability Test

The study evaluated the reliability of the questionnaire to determine how consistently it measures the intended variable. An instrument is considered reliable if it provides consistent results over time (Dahlia *et al*., 2024; Harya *et al*., 2025). Reliability of the questionnaire was evaluated through Cronbach's Alpha (α) in this study, with a reliability criterion of $\alpha > 0.06$, indicating that the questionnaire items are correlated and consistent in measuring the variable. The reliability analysis showed that the questionnaire, consisting of 14 items, achieved an α coefficient of 0.722. All variables had α values > 0.06, confirming the instrument's reliability. This means the instrument was able to produce consistent and stable data in repeated measurements. The α value also reflects a strong internal relationship between items in measuring the variables, thus making the questionnaire a reliable and valid measuring tool in this research.

3.4. Multiple Linear Regression Analysis

1) *F*-Test (Simultaneous)

In a regression model, the *F*-test is used to evaluate the joint significance of the independent variables on the dependent variable (Kumayas *et al*., 2024). As summarized in Table 3, the value of calculated *F* is 6.070.

Table 3. *F*-test results

Model		Sum of Squares	Df	Mean Square	*F*	Sig.
1	Regression	11.625	6	1.938	6.070	0.001[b]
	Residual	7.341	23	0.319		
	Total	18.967	29			

The *F*-table value of 2.51 is lower than the calculated *F* value of 6.070, indicating that H1 is accepted. This finding confirms that the influence of other farmers (X1), developers (X2), government policies (X3), employment opportunities in non-agricultural sectors (X4), land ownership size (X5), and economic pressures (X6) simultaneously have a statistically significant effect on agricultural land conversion into residential areas in Kloposepuluh Village (Y). This suggests that land conversion is driven by a combination of social, economic, and policy factors.

2) The *t*-Test

The *t*-test was used to assess the individual contribution of each independent variable to the dependent variable in this study. The test determines whether an independent variable has a statistically significant partial effect at a 5% significance level. A variable is considered significant when the calculated *t* value is greater than the *t*-table value, while a value lower than the *t*-table indicates an insignificant partial effect (Fatmawati & Lubis, 2020).

Table 4. Results of the *t*-test

Model		Unstandardized Coefficient		Standardized Coefficient	*t*-value	Sig.
		B	Std. Error	Beta (β)		
1	(Constant)	10.580	1.149		9.210	0.000
	Influence of other farmers	-0.221	0.072	-0.459	-3.062	0.006
	Influence of developers	-0.270	0.098	-0.389	-2.764	0.011
	Government policy	-0.021	0.066	-0.044	-.326	0.748
	Job opportunities in other sectors	-0.301	0.108	-0.411	-2.788	0.010
	Size of land ownership	0.198	0.068	0.442	2.906	0.008
	Economic pressure	0.348	0.116	0.471	2.986	0.007

Based on the calculation table from SPSS Version 25 in Table 5, concerning the Unstandardized Coefficient B column, the multiple linear regression model can be expressed as follows:

$$Y = 10.580 - 0.221\ X1 - 0.270\ X2 - 0.021\ X3 - 0.301\ X4 + 0.198\ X5 + 0.348\ X6 \quad (3)$$

The model above shows a positive constant coefficient of 10,580. This indicates that if the influence of other farmers, developers, government policies, job opportunities in other sectors, land ownership area, and economic pressures are held constant, then the influencing factors are 10,580 m^2. This equation can be explained as follows:

Variable X1 (Influence of other farmers on land conversion)

The influence of other farmers has a significance value of 0.006, which means it has a statistically significant effect on land conversion. The regression coefficient value of -0.221 indicates a negative relationship. This study explains that the greater the influence of other farmers on land conversion, the lower the farmer's desire to convert their land. This finding contradicts the initial assumption that social influence from other farmers was a driving factor in land conversion decisions. Generally, in the social context of rural communities, farmers' decisions are often influenced by their surrounding environment. However, the results of this study show that a negative coefficient indicates a tendency for other farmers to be reluctant to follow suit when more farmers have already done so (Sudarma *et al*., 2024).

Variable X2 (Influence of developers on land conversion)

The developer's influence had a significance value of 0.011 and a regression coefficient of -0.270, statistically indicating that this variable had a significant and negative effect on agricultural land conversion. This study explains that the greater the developer's influence in selling agricultural land, the lower the farmers' willingness to convert.

Even though the developer offered a high selling price, farmers still chose to retain their land. This was because they were concerned about their future survival, where cultivated land would serve as the main source of income to fulfill daily necessities. This result is interesting because it contradicts initial assumptions, where developers were assumed to be one of the main factors driving the transformation of agricultural land into non-agricultural land uses, such as housing and industrial zones. However, in this study, the effect was negative. There is increased farmer awareness of the importance of maintaining agricultural land as part of their social identity. Farmers who feel they are being approached by developers may be more vigilant and tend to retain their land. Farmers may be better educated or have had previous negative experiences, making them less easily tempted by developers' offers, even though the economic compensation offered is quite high. The influence of developers is no longer strong enough to drive change, as it has been offset by the prevailing institutional protection systems and regulation (Rostini, 2023).

Variable X3 (Government policy regarding land conversion)

Government policy has a regression coefficient value of -0.021 with a significance value of 0.745 <0.05, indicating that government policy does not significantly influence land conversion. This study concluded that H1 was rejected, meaning the influence of government policy does not have a partial effect on land conversion. The negative coefficient indicates that the policy direction actually attempts to inhibit land conversion, but its implementation has not been effective or has not been directly felt by farmers. Thus, existing policies need to be reviewed to be more targeted and able to provide real impacts in the field. Rice farmers do not feel the impact of the existence of formal policies or regulations aimed at protecting and maintaining agricultural land has not been able to provide a strong influence in curbing the rate of land conversion in the field. This is reinforced by the results of interviews, stating that "the role of the government is less effective in anticipating the change of agricultural land into residential or industrial land and farmers assume that most agricultural land will be converted.

Farmers argue that local and village government policies have no direct bearing on their decisions to sell their land. Government policies on land conversion aim to control the conversion of agricultural land to non-agricultural uses in order to maintain food security. Farmers believe that no regulations are supporting or prohibiting land conversion, so the decision is based entirely on individual considerations and economic circumstances. Farmers believe that the government tends to support developers in the land conversion process. Furthermore, government did not explicitly regulate and supervise agricultural land conversion. As a result, farmers feel to have complete freedom to sell their land without any clear sanctions from the government (Jean *et al*., 2020; Corolina *et al*., 2014; Nurhadi *et al*., 2019).

The limited driving force of policies may be related to a lack of economic incentives, weak oversight of spatial planning implementation, and the absence of long-term protection mechanisms for productive agricultural land. Thus, agricultural land protection cannot rely solely on formal regulations, but also requires an adaptive approach to local conditions and economic incentives that can compete with the offerings of the non-agricultural sector. To suppress the rate of land conversion, the government needs to optimize the implementation of the Sustainable Food Crop Land stipulated as LP2B (*Lahan Pertanian Pangan Berkelanjutan*) program in Act No. 41 of 2009. The determination of permanent agricultural land zones in the spatial planning or RTRW (*Rencana Tata Ruang Wilayah*) must be carried out firmly to prevent easy conversion.

Variable X4 (Job opportunities in other sectors on land conversion)

Employment Opportunities in Other Sectors has a regression coefficient of -0.301 with a significance value of 0.010. Since this value is below 0.05, it can be concluded that the variable has a significant effect on land conversion, and the direction of the relationship is negative. This negative regression coefficient means that the greater or more open employment opportunities in the non-agricultural sector, the lower the tendency of farmers to convert their land. This finding is rarely found in other studies, because it is usually assumed that the more off-farm jobs, the more farmers will abandon their land. However, in the context of this study's findings, the negative coefficient indicates that increasing employment opportunities in the non-agricultural sector plays a role in reducing the economic pressures commonly experienced by farming households, such as the urgent need for living expenses, education, or health, which have historically been the main drivers of decisions to convert agricultural land. This pressure is often exacerbated by the perception that agricultural land no longer provides adequate profits, the need for short-term cash, and the absence of a future generation willing to continue the family farm. Therefore, when alternative employment

opportunities outside the agricultural sector are available, agricultural land is no longer positioned as a source of emergency funds that must be converted, but can be maintained as a productive and sustainable asset in the long term (Arza & Zalmita, 2024; Supriadi, 2023).

Variable X5 (Land area ownership on land conversion)

Land area ownership has a regression coefficient value of 0.198 with a significance value of 0.008. Because this significance value is below the threshold of 0.05, it can be concluded that land area has a significant effect on agricultural land conversion. A positive coefficient indicates that the larger the land area owned by farmers, the greater the tendency to convert part of the land to non-agricultural uses. Based on the results of the research conducted by researchers, it shows that the larger the rice fields owned by farmers or landowners, the greater the likelihood of the land being converted to housing or other non-agricultural uses. This can occur due to several factors, such as increasing demand for land for housing development, higher land sales values for non-agricultural purposes, and economic incentives for landowners to sell or convert their land for financial gain. This phenomenon is also in line with various previous studies showing that land area is one of the main factors in the decision of farmers or landowners to convert agricultural land (Jean *et al*., 2020; Murdy & Nainggolan, 2020; Setyaningsih *et al*., 2023; Harya *et al*., 2024c).

Variable X6 (Economic pressure on land conversion)

Economic pressure has a regression coefficient of 0.348 yielding a significance level of 0.007. As this value is lower than the 0.05 threshold, economic pressure has a statistically significant influence on agricultural land conversion. A positive coefficient indicates that the higher the economic pressure felt by farmers, the greater their tendency to convert their land. Based on the results, H1 is accepted, meaning that the influence of economic pressure has a partial effect on land conversion. Farmers feel that only pursuing a profession as a farmer is not enough to meet the current economic demands, and prices are also soaring. By selling their rice fields to housing companies, farmers will receive compensation funds that can be used as capital to start a business or meet household economic needs (Supriadi, 2023; Tandaju *et al.*, 2017).

3) Coefficient of Determination

In this study, the coefficient of determination was used to assess the extent to which the independent variables account for changes in the dependent variable. Adjusted R^2 (Adj. R^2) values range from 0 to 1, with values closer to 1 indicating that a greater portion of the dependent variable's variation is explained. Therefore, higher Adj. R^2 values suggest stronger explanatory power of the regression model (Putri *et al*., 2024; Sugiyono, 2020). The results of the coefficient of determination analysis in this study can be summarized as follows: r = 0.783; R^2 = 0.613; Adj. R^2 = 0.512; and std. error of the estimate is 0.565. The r value of 0.783 indicates a strong relationship between the independent variables (economic pressure, government policy, developer influence, job opportunities in other sectors, the influence of other farmers, and land area) and agricultural land conversion With an R^2 of 0.613, the model explains 61.3% of land conversion variability through the six independent variables, leaving 38.7% attributable to external factors not captured by the model. The Adj. R^2 value of 0.512 indicates an adjustment for the number of variables, indicating that not all variables make a significant contribution. Meanwhile, the standard error of the estimate of 0.565 indicates a relatively low level of prediction error, making this model quite accurate. Overall, these results indicate that economic factors, government policies, developer influence, job opportunities, the influence of other farmers, and land area play a significant role in land conversion, although there are still other factors that have not been identified in this study.

4. CONCLUSION

The research results show that rice farmers' decisions to convert agricultural land into residential areas are significantly influenced by five main factors: the influence of other farmers, pressure from developers, job opportunities in the non-agricultural sector, limited land ownership, and household economic pressures. These five factors indicate that farmers' decisions are more influenced by practical considerations related to short-term economic

needs and opportunities. Meanwhile, government policies have been shown to have no significant influence on land conversion decisions, indicating a weak role of policies in responding to farmers. In addition, providing economic incentives, including fertilizer subsidies, agricultural equipment assistance, and guaranteed crop prices can increase farmers' incomes and reduce their dependence on the non-agricultural sector. This combined approach is expected to maintain the sustainability of agricultural land in Kloposepuluh Village.

ACKNOWLEDGMENT

With deep respect, the researchers express their deepest gratitude to the rice farmers in Kloposepuluh Village for their participation, cooperation, and willingness to share relevant information throughout the research process. These contributions were instrumental in ensuring the completeness and depth of the data. The highest appreciation is also extended to the Kloposepuluh Village Government for all forms of support, facilitation, and administrative assistance that have enabled the smooth implementation of the research in the field. Thanks are also extended to the Team from Agricultural Extension Center (BPP) of Sukodono District for their guidance, assistance, and the provision of invaluable data and information in analyzing the impact of agricultural land conversion on the livelihood and economic well-being of rice-farming households. The study's findings are expected to contribute to the development of policies that support farmers and promote enhanced welfare and economic resilience in the future.

AUTHOR CONTRIBUTION STATEMENT

Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
RH	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NY		✓		✓									✓	
GIH		✓		✓				✓				✓		

C: Conceptualization	Fo: Formal Analysis	O: Writing - Original Draft	Fu: Funding Acquisition
M: Methodology	I: Investigation	E: Writing - Review & Editing	P: Project Administration
So: Software	D: Data Curation	Vi: Visualization	
Va: Validation	R: Resources	Su: Supervision	

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