



# Factors Influencing Farmers' Decision to Participate in the RHL (Forest and Land Rehabilitation) Program in Lengkiti District, OKU Regency

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## ABSTRACT

This research aims to determine what factors influence farmers' decisions to participate in Forest and Land Rehabilitation activities in Lengkiti District, OKU Regency. This study employed a survey approach of research. In this work, logistic regression analysis was utilized to analyze the data. The findings revealed that the independent variables: number of family members, land area, and workdays, significantly affected coffee growers' decisions to participate in the Forest and Land Rehabilitation (RHL) program.

## 1. INTRODUCTION

Indonesians are more than 50% dependent on timber and non-timber forest products. This condition is caused because they live in forest areas. The dependence of the community is not necessarily without reason, but indeed to meet their daily needs [1]. Government Regulation No. 76 of 2008 concerning Forest Rehabilitation and Reclamation, forest and land rehabilitation aims to restore, maintain and improve the functions of forests and land so that their carrying capacity, productivity and their role in supporting life support systems are maintained. The community views land rehabilitation as having a very economic impact and has not yet seen the environmental impact. Community dependence on the existence of forests is related to water availability and soil fertility. Therefore, the community is willing to protect the plants that have been planted through RHL activities. Positive views from the community have a good impact on the success of the RHL program, especially the survival of plants that have been planted [2].

In South Sumatra KHLK together with PUPR and Sinar Mas, built the Sriwijaya Kemampo Nursery Center in Banyuasin Regency, South Sumatra, with a capacity of 10 million seedlings per year. The South Sumatra Forest Service (Dishut) said that in 2021 as many as 10 thousand hectares of critical land in this area will be rehabilitated. Land inside and outside the forest area that is damaged and loses its function or is referred to as critical land continues to occur in South Sumatra. In fact, it continues to grow, considering the nature of the forest open to the public so that it can be managed by anyone. As a result, much of the forest cover has become coffee and oil palm plantations. This threatens the condition of forestry on Sriwijaya Earth. Based on HaKI data, the total land area can be seen in Table 1.

Based on Table 1, South Sumatra experienced deforestation from 2019 to 2020, namely an area of 37,170 hectares. The location of this deforestation occurred in Banyuasin covering an area of 21,954 hectares, Musi Banyuasin covering an area of 9,976 hectares. Muara Enim with an area of 2,038 hectares, Ogan Komering Ilir (OKI) with an area of 1,724 hectares. Ogan Komering Ulu (OKU) with an area of 766 hectares, OKU South



with an area of 576 hectares, OKU East with 81 hectares and Lahat with 55 hectares.

**Table 1.** Total Deforested Land in South Sumatra, 2020.

Regency/City	Forest Land Area (Ha)
Banyuasin	21.954
Musi Banyuasin	9.976
Muara Enim	2.038
Ogan Komering Ilir (OKI)	1.724
Ogan Komering Ulu (OKU)	766
Ogan Komering Ulu Selatan (OKUS)	576
Ogan Komering Ulu Timur (OKUT)	81
Lahat	55

Source: HAKI, 2021.

OKU Regency is one of the districts that has experienced deforestation since 2019 until now covering an area of 766 hectares, more than 50% of which has occurred in Lengkiti District. Deforestation has very serious impacts both at the national and international levels. One of the impacts on socio-economic. The scarcity of resources causes village communities around the forest to be very dependent on the surrounding forests both ecologically, economically, and socially. One of the solutions to the problem of scarcity of land resources and employment opportunities in villages around the forest is to increase the income of people living around the forest with the opportunity to produce food, fodder, and supply of firewood within the state forest area, without having to sacrifice the function of the forest itself [3].

In addition, the tradition of uncontrolled forest fires that occur every year, destructive logging, clearing of land for plantations, mining and dredging of fuel, and development of transmigration areas are some of the factors of deforestation in OKU District, in Lengkiti District. These activities impact the socio-economic for people who are dependent on natural products or forests, agriculture and can cause huge losses, namely for the whole community and the country. Because the change in forest land disrupted environmental conditions, the government through the Ministry of Environment and Forestry implemented the Plant Protection and Community Development Program in Forest and Land Rehabilitation Activities (RHL) to prevent and reduce social and economic impacts on the community in Lengkiti District, OKU Regency. among the farmers there are still those who have not followed the RHL even though participating in the RHL can increase farmers' income.

This research aimed to find "factors influencing farmers' decisions to join the RHL (Forest and Land Rehabilitation) program in Lengkiti District, OKU Regency.

## 2. RESEARCH METHODS

The research method used in this study is a survey method. According to Ref. [5], survey research is research conducted on large and small populations, but the data studied is data from samples taken from the population, so that relative events, distribution, and relationships between sociological and psychological variables are found. The sampling method in this study uses the Random Sample Group (Cluster Sampling) method, which is a sampling procedure in which the smallest unit in the population is a collection of elements. Within the cluster is usually heterogeneous but between clusters it is homogeneous. Then we choose a sample whose members are clusters so that it

is no longer a sample whose members are the smallest units of analysis [4]. Then the number of samples obtained can be seen in the Table 2.

**Table 2.** Number of Respondents

No	Village	Population	Sample	Percentage
1	Karang Endah	69	18	25%
2	Gedung Pakuon	78	20	25%
3	Bunga Tanjung	50	12	25%
4	Lengkiti	77	19	25%
	Total	247	70	100%

Source: Dinas Kehutanan OKU, 2022

The data collection method used in this study is observation and interview. The observation method is the observation of several aspects of the problem to obtain the necessary facts, while the interview method is collecting question and answer information. Interviews are a process of interaction and communication in the form of asking respondents directly to obtain information [5]. The data analysis used in this study is logistic regression analysis using SPSS.

$$\text{Log} \left( \frac{Y}{1-Y} \right) = b_0 + b_1 \text{Log}X_1 + b_2 \text{Log}X_2 + b_3 \text{Log}X_3 + \dots + e$$

### Description

$b_i$  = Coefficient or parameter of regression equation

(for  $i = 1, 2, \dots, k$ )

$X_i$  = Independent Variable (for  $i = 1, 2, \dots, k$ )

$e$  = Error

This study uses four independent variables, so the formulation can be written as follows:

$Y$  = Decision to follow RHL (1)

Decision not to follow RHL (0)

$b_0$  = Constant

$b_i$  = Coefficient of regression equation or regression parameter (for  $i = 1, 2, 3, 4, 5$ )

$X_1$  = Number of Family Members (people)

$X_2$  = Land Area (Ha)

$X_3$  = Work Day (Weekday, person)

## 3. RESULTS AND DISCUSSION

The factors that influence farmers' decisions to participate in Forest and Land Rehabilitation activities in Lengkiti District, OKU Regency are explained descriptively. The data used in this analysis is primary data where the independent variables are the number of family members, land area and workdays. Based on the logit regression analysis in the appendix, the coefficient of determination R Square = 0.830 is obtained. It is shown that 83.0% of the variation in the purchasing decision variable is influenced by the number of family members, land area and workdays.

To analyze the relationship between farmers participating in Forest and Land Rehabilitation activities in Lengkiti District, OKU Regency, it is explained descriptively using logit regression. Logit regression results of farmers participating in Forest and Land Rehabilitation activities in Lengkiti District, OKU Regency are explained descriptively as can be seen in Table 3.

**Table 3.** Logit Correlation Results of farmers participating in Forest and Land Rehabilitation activities in Lengkiti District, OKU Regency, 2022.

Variables in the Equation						95 0% C.for EXP (B)			
		B	S.E.	Wald	df	Sig.	Exp (B)	Lower	Upper
Step 1	X1	.846	.475	15.567	2	.003	-1.672	2.613	16.376
	X2	4.235	.452	4.568	2	.004	6.287	1.088	6.189
	X3	.687	.422	4.145	2	.002	2.264	4.586	4.468
	Constant	.378	.471	5.904	2	.088	6.270	1.005	4.479
		-1.256	.130	25.348	2	.000	.278		
R <sup>2</sup> = 0.830									

\*\* = Very significant effect 0.01

\* = Significant effect 0.05

Based on Table 3, it is possible to analyze the relationship between factors influencing farmers' decisions to participate in Forest and Land Rehabilitation activities. From the regression results, it was obtained that the value of  $R^2 = 0.830$  stated that 83% of the opportunity for consumers' decisions to buy vegetables at the spill market could be explained by the variables number of family members (x1), land area (x2) and workdays (x3). While the remaining 17% is influenced by other variables not in the model. Chi Square of 39.567 explains that together the variables are the number of family members (x1), land area (x2) and workdays (x3). significant effect on coffee farmers' decisions to participate in Forest and Land Rehabilitation activities. For more details, the results of the logit regression analysis of the factors that influence farmers' decisions to participate in Forest and Land Rehabilitation activities will be explained as follows:

### 3.1. Number of Family Members (X1)

The results of the logit regression show that the Exp (B) value of the number of family dependents is 1.672. That is, every additional family member or increase of 1% will increase the chances of coffee farmers' decisions to take part in forest and land rehabilitation activities by 1.672%. After conducting the Wald test, it was found that a significance of 0.003 was smaller than  $\alpha = 0.01$ . So the number of family dependents has a significant or significant effect on coffee farmers' decisions to take part in forest and land rehabilitation activities, this is due to the number of members, this is in line with the research of Ref. [6] stated that the socio-economic and cultural aspects of the community needed in the mindset of the RHL activity program to be recommended included population pressure, basic regional activities, farmer income, labor conditions, population and workforce development, regional growth centers, in addition to considering responses / community response and community customs in relation to RHL efforts. This information is then used to evaluate the socio-economic conditions of the area concerned in terms of three indicators, one of which is the level of dependence of the population on income which is influenced by the number of family members.

### 3.2. Land Area (X2)

The regression results show that the product quality Exp (B) value is 6.287. That is, every time the land area increases or increases by 1%, it will increase the chances of a coffee farmer's decision to take part in forest and land rehabilitation activities by 6.287%. After conducting the Wald test, it turned out that a significance of 0.004 was obtained, which was less than  $\alpha = 0.01$ . This means that land area has a significant or significant effect on coffee farmers' decision opportunities to participate in forest and land rehabilitation activities. Based on the results of his research as many as 70 farmers participating in the RHL program owned more than 1 Ha of land. So it can be said that the variable land area influences coffee farmers to decide to take part in the RHL program. Apart from that, according to the Regulation of the Minister of Forestry of the Republic of Indonesia Number: P. 32/MENHUT-II/2021 Concerning Procedures for Preparing an Engineering Plan for the Rehabilitation of Forest and Watershed Land (RTKRHL-DAS), it is important to know the land area, because it is one of the factors estimator of the size of the average farmer's income.

### 3.3. Weekdays (X3)

The logit regression results show that the selling price Exp(B) is 2,264. That is, every working day is increased by 1%, increasing the chance of a coffee farmer's decision by 2,264%. After conducting the Wald test, it turns out that a significance of 0.002 is greater than  $\alpha = 0.01$ . So the outpouring of working days has a significant or significant effect on coffee farmers' decisions to participate in forest and land rehabilitation programs. This is in line with the results of research Ref. [3]. The greater the outpouring of work in coffee farming, the more wages received from the farming, because wages are obtained based on the number of Working Days (HOK) that the farmer devotes to his coffee farming. Wages will also increase if farmers save their time outside working hours, namely working overtime hours. In line with government regulations that the number of working days greatly affects the level of wages and prices in the RHL program, wages for workers (daily or monthly), information about the amount of wages (daily and monthly) for these workers is needed in calculating program/project financing. In practice it is separated into skilled labour, handyman helpers and ordinary workers, which are contained in the socio-economic data in the

Regulation of the Minister of Forestry of the Republic of Indonesia Number: P. 32/MENHUT-II/2021IV.

#### 4. CONCLUSION

Based on the research that has been done, it can be concluded that the factors that influence the decision of coffee farmers to take part in the Forest and Land Rehabilitation (RHL) program are the independent variables: number of family members, land area and workdays have a significant effect on coffee farmers' decisions to take part in the Forest Rehabilitation and Rehabilitation Program. Land (RHL) in Lengkiti District, OKU Regency. Based on the results of the field assessment, the suggestions that are expected to improve and build on this activity are as follows: (1) For the relevant agencies, it is necessary to strictly control and supervise the community so that can prevent the expansion of forest encroachment in the area; (2) For the government, it is necessary to socialize the community regarding the use of the results of this activity, so as to provide understanding to the community and provide a large role in further management [(3) For the community and farmers, it is necessary to protect existing plants at the activity location directing the community to manage, maintain and maintain plants so that the results that can be obtained can be maximized.

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