

# The level of community participation on forest and land rehabilitation program in Sorong City

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## ABSTRACT

The forest and land rehabilitation (RHL) program is a national program aimed for restoring, maintaining and improving forest and land functions. This requires support from various parties, especially the community. Kelurahan Klademak and Kelurahan Klawasi in Sorong City where RHL program were implemented. However, the community participation level in this program needs to be evaluated in order to obtain a solution for the sustainability of the RHL program. The method used in this research is descriptive through interview technique. The results showed that community participation in the planning stage of the RHL program was classified at middle at 1.60. But, the implementation and evaluation stages the community participation was classified high. This result are strongly influenced by variables of age, family member number, cultivation land and the attitude of the community towards to RHL program, while the variable of education level and income level have negative effect.

**Key words:** *Forest and land rehabilitation, Community participation, Sorong city.*

## Introduction

The forest and land rehabilitation (RHL) program is a complex program, involving various aspects of both social, economic and ecological. A Nationally, RHL program are coordinated between the government and rehabilitating forests and land communities, especially in the watershed areas. This activity is one of the efforts to raise awareness and attention of all components of society to realize environmental improvements so that the function of forest resources can grow productively and optimally.

Kelurahan Klademak and Klawasi in Sorong City have been included in the declaration of RHL program since 2003. The RHL program are a collaboration forum between government and society which

can synergistically contribute to the preservation and improvement of forest function. However, the level of community involvement in supporting RHL program has not been well documented. This information is needed to evaluate the success rate of RHL program implementation. The RHL evaluation that has been done up to now is still focused on activity accountability, using only the percentage of plant life, trees height, and the level of plant health of RHL results, the data is not enough to evaluate the total success rate of RHL as a system.

Therefore, a study needs to be done about the level of community participation in supporting the success of the RHL program. Besides, it is also necessary to know the relationship between socio-economic factors of society with the level of participation.

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## Materials and Methods

### Site Selection and Research Time

This research was conducted in Kelurahan Klademak and Kelurahan Klawasi, Sorong City for two months from November to December 2016.

### Method of Collecting Data

This research was conducted by descriptive method with interview technique in collecting primary and secondary data. Respondents in this study were people who involved in the RHL program.

### Research Approach and Variable Measurements

#### 1. Characteristics of the RHL Farmers

The farmer characteristics were used as variables consist of age, education level, family number, income level, cultivation land and attitude of RHL program. The data were analyzed by tabulation system through calculating the percentage of the community participation level, and then divided into several classes according to the level or predefined criteria.

#### 2. Community Participation

##### (a) RHL Planning Stage

The community participation in the RHL planning were seen by the aspect of community involvement in: (1) Working Contract with KPHL, (2) Boundary land Installation; (3) Plant Determination; and (4) Forest Farmer Group Establishment.

##### (b) RHL Implementation Stage

The community participation in this stage were seen by community involvement activities consist of : (1) First extension; (2) Second extension; (3) Third extension; (4) First Forest Farmer Group (KTH) meeting; (5) Second KTH meeting; (6) Third KTH meeting; (7) Stages arrangement and installation; (8) Seed distribution to planting holes; (9) Making the disk and planting hole; (10) Plant the programmed plants; (11) Plant according to the spacing; (12) Re-plant the dead plant; and (13) Weed the plants. The score and criteria of the participation level in the RHL implementation shown in Table 1.

##### (c) RHL Evaluation Stage

Community participation in RHL evaluation were seen from the aspect of their involvement in: (1) Maintaining Plants, (2) Following Meetings During Evaluation, (3) Providing Suggestions / Ideas at

**Table 1.** Category of Participation Level in the RHL Implementation

No (1)	Participation Level (2)	Score (3)
1	High	8.61 – 13.00
2	Medium	4.31 – 8.60
3	Low	0.0 – 4.30

Meetings, (4) Participating and conveying the importance of RHL to the other community. The score index that respondents can be reached in the planning stages is 0 to 4. The participation level can be categorized as Table 2.

**Table 2.** Category of Participation Level in the RHL Evaluation

No(1)	Participation Level(2)	Score(3)
1	High	2.62 – 4.00
2	Medium	1.31 – 2.61
3	Low	0.00 – 1.30

##### (d) Attitude toward to the RHL Program

The scoring criteria of respondents 'attitudes are showed in Table 3 based on respondents' attitude variables in several respects, there are ;

- (1) Environmental Sustainable Aspect
- (2) Programs Provide Incentives
- (3) Future Interest of Grandchildren.

### Operational Definition and Variables Indicator Independent Variables (X)

#### Dependent Variables (Y)

### Data Analysis

#### 1. Qualitative descriptive Analysis

In this analysis, all research variables are presented in tabulation and graph form. Furthermore, the data displayed are interpreted in accordance with the data of the research results.

#### 2. Multiple Linear Regression Analysis

This analysis used for testing the relation between the variables used, then created a regression model to show the direction and magnitude of the relation between these variables. So that the factor will be found that influence the level of community participation in RHL activities. In detail these variables will be applied as follows:

**Table 3.** Operational Definition, Indicator and Factors that related to the Community Participation.

No(1)	Variables(2)	Operational Definition (3)	Indicators(4)	Measurement (5)
1.	Age	Respondent age from the beginning of birth until the time of the study.	ID Card, certificate of birth or other supporting letter from the Government.	The age of the respondent is measured in year.
2.	Education level	Number of successful years of respondents in formal education.	The last school certificates	The education level is measured in year.
3.	Number of Family Member	The number of family members who are responsibiled by the respondent in economically in the household.	Family member card (KK) or other supporting letter from the government.	The number of family members is measured by the soul.
4.	Income Level.	Respondent income in total (household expenditure).	Respondent statement	The income are measured by rupiah unit.
5.	Cultivated land area.	How large is the area of land allocated for activities of RHL.	Certificate of Custom release letter	The cultivated land is measured in hectare (Ha)
6.	Attitude	Respondent feelings with a tendency to act on an activity.	Someone shows the magnitude of the responsibility for the task given	Discipline in work

**Table 4.** Operational Definition, Indicator and Factors that related to the Community Participation.

No (1)	Variables (2)	Operational Definition (3)	Indicators(4)	Measurement (5)
1.	Community participation in RHL program	Community involvement or contribution in RHL activities.	1. Community involvement in the planning stage. 2. Community involvement in the implementation stage 3. Community involvement in the evaluation stage	Questioner.

- a. Respond Variable (Y) = Level of participation
- b. Predictor Variable (X1) = Age
- c. Predictor Variable (X2) = Education level
- d. Predictor Variable (X3) = Number of family number
- e. Predictor Variable (X4) = Income level
- f. Predictor Variable (X5) = Cultivated land
- g. Predictor Variable (X6) = attitude

The regression model that is formed will look as follows :

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6$$

## Results and Discussion

The results of this study indicate that the respon-

dents involved in the activities of the RHL program are aged 18 to 50 years, as shown in Figure 1a. With the level of formal education as in Figure 1b

The number of family and income level are aspects that also influences the level of the respondents involvement in the RHL program. The number family as shown in Figure 2a, while the income level is presented in Figure 2b.

The research data shows that the cultivation land in the research ranges from one hectare to two hectares. The majority of respondents (66.70%) have a land of 1 ha, while the other (33.30%) has a land of 2 ha. Percentage of respondents based on cultivation land is presented in Figure 3.

In addition of respondents data, respondents attitudes in the research area on environmental

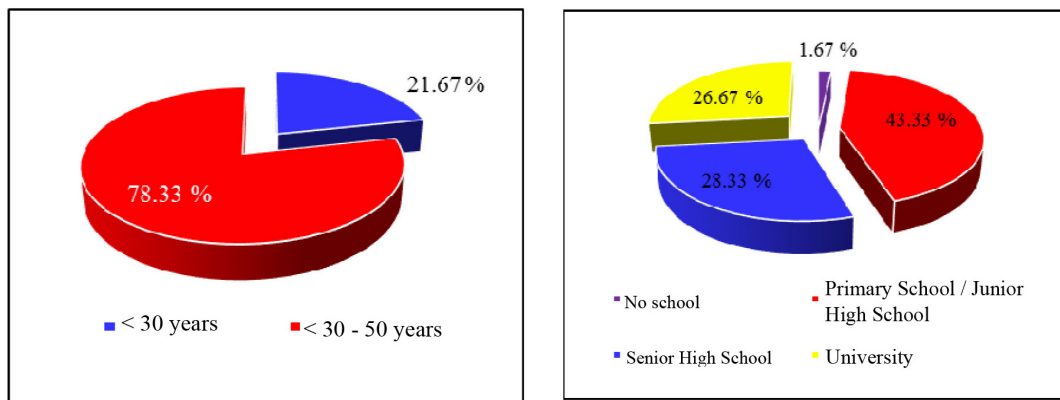


Fig. 1. Percentage Respondents by Age Level (a) and education level (b)

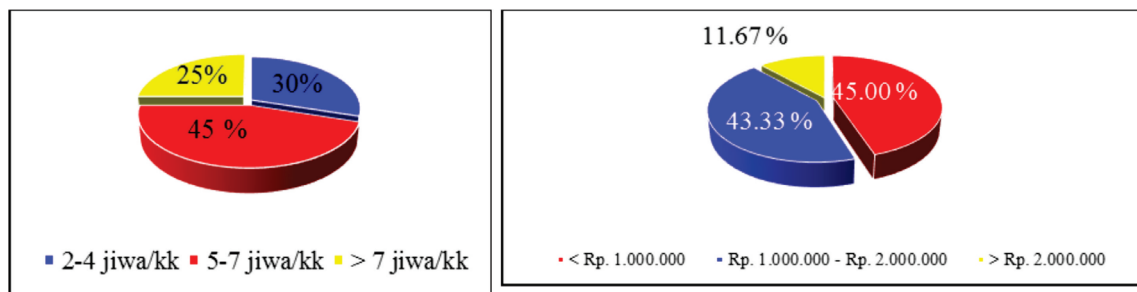


Fig. 2. Percentage of Family Number and Income Level.

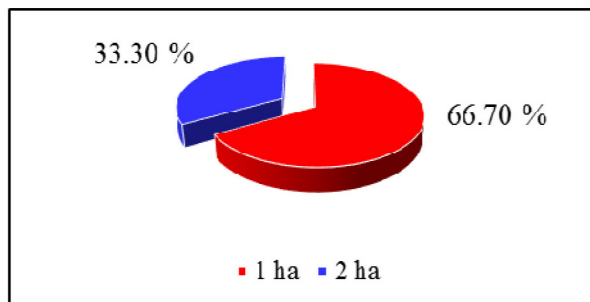


Fig. 3. Percentage of Respondent based on cultivated land

sustainability aspects, incentive programs and the future importance of the children and grandchildren of the RHL program are presented in Table 5.

The results of the scoring on the community attitude in preserving the environment, incentive programs and the future interests of the grandchildren of the RHL program in Klademek and Klawasi Villages are included in the positive category or the whole community (100%) strongly agree the RHL activity is one of the efforts in preserving the environment. However, 68.33% did not agree if the amount of budget from the Government that has

been used in RHL activities is categorized enough, only 13.33% agreed and 18.33% stated strongly agree. The attitude of the community towards the distribution of the budget in the RHL program are at 46.67%, states disagree that the distribution of intensive programs has been evenly distributed. And from the results 40.00% of the public agreed to the distribution of evenly distributed and 13.33% who strongly agree that the distribution of budgets in the activities of RLH has been distributed evenly. In addition, 70.00% of the public stated that they did not agree that the facilities provided by the Government in the RHL program such as roads, bridges, seeds, equipment and others are adequate. Only 15% of the people agreed and strongly agreed that the facilities provided by the Government in the RHL program were adequate.

This assessment resulted about the future interests of children and grandchildren, whole respondents (100%) stated strongly agree that the RHL program is done for the benefit of the future of children and grandchildren. They argue that by rehabilitating deforested and degraded forests, it will restore forests and critical lands to productive land

that their grandchild can use.

The results of this study explain that the majority of people understand the objectives and benefits of RHL activities, thus raising the positive attitude of majority of society to RHL activities. Notoatmodjo (2003) explains that if someone does not know something clearly then it is difficult for him to determine positive and negative attitudes, and if someone knows something but is not accompanied by consciousness to do so his knowledge will not last long and useless to life. A person's attitude is influenced by his own experience or others people

around him.

### The Community Participation Level in the Forest and Land Rehabilitation

The scoring of the interview results on community participation level in Kelurahan Klademak and Klawasi in the RHL activities then were analyzed by tabulation (Table 6).

The results of this study explain that the RHL committee has empowered the community and it has conformed the basic requirements of RHL activities as stated in Indonesian Government Regula-

**Table 5.** The Community Attitude Analysis on the RHL Program

No (1)	Indicators (2)	Criteria	Score	Respondent Number	Percentage
1	Environmental sustainability aspects				
	a) RHL is an important activity for all mankind	Disagree	-	-	-
		Agree	-	-	-
		Strongly agree	180	60	100.00
	b) The success of the RHL program is everyone's responsibility	Disagree	-	-	-
		Agree	-	-	-
		Strongly agree	180	60	100.00
	Score in average (1)	3.00			
2	Incentive Program				
	a) The Government budget for the RHL Program is sufficient	Disagree	41	41	68.33
		Agree	16	8	13.33
		Strongly agree	33	11	18.33
	b) The Government's budget for the RHL program has been equitably distributed	Disagree	28	28	46.67
		Agree	48	24	40.00
		Strongly agree	24	8	13.33
	c) Facility from Government for RHL Program is adequate	Disagree	42	42	70.00
		Agree	18	9	15.00
		Strongly agree	27	9	15.00
	Score in average (2)	1.54			
3	The future importance of the children and grandchildren	Disagree	-	-	-
		Agree	-	-	-
		Strongly agree	180	60	100,00
	Rataan Skor (3)			3.00	
	Total ( 1 + 2 + 3)			7.54	
	Attitude			Positive	

**Table 6.** The Community Participation Level Analysis in the RHL Program

No (1)	Criteria (2)	Score (3)	Total Score (4)	Total Respondents (5)	Percentage (5)
1	High	14.01 – 21.00	695	41	68.30
2	Middle	7.01 – 14.00	260	19	31.70
3	Low	0.00 – 7.00	0	0	0.00
Total			955	60	100.00
Average			15.92		
<b>Level of Participation</b>				<b>High</b>	



tion No. 76 in 2008 about RHL. This regulation are stating that the RHL activities principles are community empowerment and participatory approaches.

Sastroepetra (1988) argued that participation is emotional mental involvement that encourages to contribute the goals, ideals and take responsibility of the group. Participation can also be interpreted as sharing the process of conscious interaction because the sense of a person solidarity and responsibility to the community where he becomes a member. Margono (1998) explained that without community participation, development programs are considered unsuccessful. Community participation around the forest will have an impact on people's involvement in following changes to be more real. The existence of community participation indicates a positive relationship between members of the community around the forest in achieving the success of the expected goals and the feeling of belonging.

However, at the planning stage the level of community participation is medium. This is due to the contract and the selection system of the plant species used in the RHL activities imposed by the RHL Committee. The contract signing system is not done by all members, but only represented by the group leader, while on the plants selection used in RHL they were not involved. The plant selection were done by the RHL committee.

### **The Analysis of Variables that Infuence the Community Participation Level in the RHL**

The analysis result of multiple linear regression in community participation level in the RHL are modeled as below

$$Y = 8.061 + 0.083 X_1 - 0.431 X_2 + 0.360 X_3 - 1.00E-007 X_4 - 0.307X_5 + 0.527 X_6$$

The correlation anaylisis resulted that the correlation between  $X_1$  to  $X_6$  with  $Y$  is 0.784. This result explains that the community participation level in RHL program are influenced by six of respondent characteristics at 61 % and 29% are influenced by the other factor outside of the model. According to Sarwono (2006) correlation coefficient at 0.614 indicates that the correlation of variables  $X_1$ - $X_6$  simultaneously with variable  $Y$  included in very strong correlation.

The result of regession analysis shows that the positif corelaton between the level of community participation in the RHL program ( $Y$ ) occurs with

age ( $X_1$ ), education level ( $X_2$ ), number of family members ( $X_3$ ) and community attitude ( $X_6$ ), while the cultivation land ( $X_5$ ) has a negative corelation.

The result of regression analysis between age ( $X_1$ ) and community participation level in RHL program are positive ( $b = 0.083$ ), this means that someone who older, their level of participation in RHL program will increase, because a person's age is closely related to responsibility level. A person with productive age at 30-50 years will have greater responsibility to support himself and his family than those people under 30 and over 50 years.

The result of regression coefficient analysis between education level ( $X_2$ ) and participation level in RHL program is positive ( $b = 0.431$ ). The results of this study indicate that the level of education will increase community participation in RHL programs. This is because someone who has a higher education will be easier to receive information and build.

The relationship between the number of family members ( $X_3$ ) and the participation rate in the RHL program was positive ( $b = 0.360$ ). These results shows that the higher number of family members, the participation level in RHL program will also increase. Because family with higher member also increase their needs. This condition will make them increase the intensity of their work in farming in order to meet the needs of his family.

The result of correlation coefficient for income level ( $X_4$ ) with participation level shows negative result ( $b = -0.007$ ). This shows that people with lower income their participation level will higher than people with higher incime. The results of this study show that the majority of the community participating in RHL program are to earn additional income. They hope that through their involvement in these activities can provide or increase their family income. This makes the results of this study different from the results of research in general. Where, if a person's income is low then their participation rate will be low as most of their time is spent to meet their daily needs.

The corelation between the cultivation land ( $X_5$ ) and the participation level in the RHL program is negative ( $b = -0.307$ ). The results of this study show that the people with more cativation land claimed that their participation level will also decrease.

The result of regression coefficient analysis between Attitude ( $X_6$ ) and participation level in RHL program is positive ( $b = 0.527$ ). The results of this

study show that person with attitude towards RHL program greatly influences their participation level. This result explains that good or positive attitude of society is their positive response to the knowledge of RHL. Communities in both research sites understand the objectives and benefits of RHL program, so that their attitude response is positive or good.

## Conclusion

1. The level of community participation in the Forest and Land Rehabilitation Program in Kelurahan Klademak Kota Sorong is medium category for planning and high category for the implementation and evaluation.
2. There are four variables that have a positive effect on the level of community participation in RHL program, consist of age, family member number, cultivated land and the attitude of the community towards the RHL program, while the variables of education level and income level have a negative effect.

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