SOCIAL ECONOMIC FACTORS AND FARMERS' PARTICIPATION IN THE DEVELOPMENT OF COMMUNITY FORESTS IN KALIGESING DISTRICT PURWOREJO REGENCY

Ratna Dwijanti[1], Joko Sutrisno[2], Bambang Pujiasmanto[3], Endang Siti Rahayu[4]

[1]Doctoral program student in Graduate School, Depatemen of Agricultural Science, University of Sebelas Maret Surakarta, Central Java; [2-3]Department of Agriculture of Purworejo, Central Java; [4]Graduate School, Department of Agriculture Science, University of Sebelas Maret Surakarta, Central Java, INDONESIA.

ratnadwijanti2017@gmail.com

ABSTRACT

The research was conducted in Kaligesing Sub District, Purworejo Regency, Central Java Province. Survey research method with qualitative descriptive approach using 60 people as sample was used. Based on the calculation of Spearman Rank Correlation test statistic, the correlation coefficient value was categorized strong with r value = 0.804. This means there was a significant relationship between the level of participation of farmers and the successful development of community forests of 0.804. From the result of significance test (t-test), it was found that t_{test} 910.315 was bigger than $t_{0.05}$ 2.000 at 5% level, meaning there was significant relation between farmer'sparticipation level and community forest development.This shows that the greater the level of farmer's participation level will be followed by the success rate of community forest development. Significance test resulte in Z_{test} 4.504 which was greater than $Z_{0.05}$1.960 at the level of 5%, then H_0 was rejected and H_1 was accepted, meaning there was a significant difference in participation of farmers in the development of community forest.

Keywords: community forest, farmer's participation, socio-economy

INTRODUCTION

Destruction of forest area generally caused by low economic level of community in and around forest area, lack of public awareness level to environmental sustainability, narrowness of arable land ownership will directly affect forest destruction, because of looting and encroachment resulting in land and forest degradation. As stated by Saefudin A. (1994), to fulfill the need for food, farmers have worked on land that should be used for permanent vegetation to be a seasonal food farm with land-processing techniques without regard to the preservation of natural resources and the environment.

In Central Java, critical land area reaches approximately 25,303 ha (Central Java Provincial Forestry Office, 2005). The area of critical land in question is spread in the central and southern parts of Central Java, which has topography of mountains/hills. The area of critical land in Purworejo Regency reaches 6,237.5 ha, and an area of 550.45 ha from the critical land is located in Kaligesing District, which should have potential utilization through various beneficial activities (Department of Agriculture Forestry and Soil Conservation, Purworejo Regency, 2017). For more details, the state of critical land in Purworejo Regency can be seen in Table 1.

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Table 1. Critical Land Area in Purworejo Regency by district

No.	District	Area (ha)	Percentage (%)
1.	Bruno	1.034,50	16,59
2.	Bener	1.365,29	21,89
3.	Loano	527,38	8,45
4.	Kemiri	649,44	10,41
5.	Gebang	866,19	13,89
6.	Purwodadi	392,46	6,26
7.	Banyuurip	290,68	4,66
8.	Kaligesing	550,45	8,82
9	Bagelen	561,10	9,00
	Total	6.237,50	100,00

Source: Department of Agriculture Forestry and Soil Conservation, Purworejo Regency, 2017

The effort to overcome the destruction of forests and expand the critical lands mentioned above can be implemented through farming activities with attention to the implementation of soil and water conservation. The Government through the Ministry of Forestry is implementing a critical land rehabilitation program or often called the National Movement for Forest and Land Rehabilitation, which started from 2001 to the present. One of the policies in this program is the making of community forests on farmers/community land.

Community forest development aims to increase community choice in business development, diversification of sources of income, expansion of employment, and reduce population pressure on forest resources (Ministry of Forestry, 1996).

Problems' Identification

The development of community forests is determined by the level of farmer participation in community forest development activities, the extent to which the level of participation is very dependent on the social and economic conditions of forest farmers. The level of education, experience, cultivated land area, and income levels of farmers is crucial to the success of community forest management. Efforts to develop community forests can be seen from the success of managing the land, ranging from plant diversity, cropping pattern, and planting system. The combination of woody plants with fruit plants will be a benchmark for business success. The more cultivated the plant with a certain density will produce optimal production and take place in time through out the year.

Objectives

This study aims to determine the level of farmer's participation in the development of community forests, whether there is a relationship between socio-economic factors of society and the success rate of community forest management, whether the level of education, business experience, and

arable land associated with the income level of community forest farmers.

Novelty Value of Research

The results of this study are expected to contribute in the form of information and recommendations for policies in the development of community forests, both for farmers, communities, and related institutions. In addition, it also adds knowledge insight for community forest farmers the need of farmers participation in the development of community forests. If economic factors affect a person's speed to adopt a community forest management

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innovation, then success will be a future reference in community forest management that serves as an economic resource and benefits the environment.

LITERATURE REVIEW

Development of Community Forest

Community forest is a forest that grows on land which is borne by property rights and other rights, with the minimum area of 0.25 ha and wood canopy cover more than 50% and or the number of plants in first year of at least 500 plants (Central Java Provincial Forestry Office, 2004). According to the Basic Forestry Law Number 41 Year 1999, the definition of community forest is the forests subject to rights which is subjected to property rights and their arrangement are regulated by the State and their management is carried out by the owner.

The development of community forest in its implementation is directed to the locations or lands as stated by the Ministry of Forestry (1996), as follows:

1. Land with slope more than 50%,
2. Land abandoned or not cultivated any seasonal crops.
3. Land with special consideration,
4. Land owned by the people who because of economic considerations are more profitable if used as community forest rather than seasonal crops.

Community Participation in the Development of Community Forests

According to Tony (2004), the level of community participation in community-based forest management programs is measured at each stage, as follows:

1. Planning stage is the stage of preparation of work contract activities, determining the types of plants, the distribution of land share, determination of forest farmer groups, and revenue sharing.
2. The program implementation stage consists of forest planting, maintenance, and security activities. These three activities are seen from the frequency of farmers to Community-Based Forest Management land.
3. The third stage is the stages of results utilization, seen from the results/effects received by participants from Community-Based Forest Management
4. The last stage is the evaluation stage consisting of monitoring and evaluation activities held once a year.

Factors of Socio-Economic Aspects of Community Forest Farmers

The application of technology will have a positive impact, if supported by adequate education level of farmers, farming experience, farming land area, and farm capital. New technology should benefit farmers, and the benefits are derived from the experience or educational process. According to Suryabrata (1984) in Supaat (1998), learning will bring about a change, and with that change a new competence can be obtained by effort.

In meeting their urgent needs, farmers with narrow land often neglect aspects of preserving the soil and the natural environment with longer-term goals. Community forest efforts in the handling of critical lands aims to preserve soil and water and produce long-term results.

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METHODS

The research was conducted in Kaligesing District, Purworejo Regency. Selection of this location was done purposively with the consideration that the location is quite feasible to serve as a research object.

The method used in this research is descriptive method with survey approach, that is a research performed to obtain data from phenomenon that occured and to search for factual explanation, either about social institution, economy or politics from a group or region (Natsir , 1998).

Sampling was done by Proportionale Stratified Random Sampling technique taking sample proportionally randomly based on strata of the village with different participation level in the development of community forest. The sample was proportionally obtained based on the limits of Slovin in Husein Umar (1999) with the following formula:

$$n = \frac{N}{1 + N(\lambda)^2}$$

Notes:

n : number of samples
N : number of population
λ : Percent leeway inaccuracy due to tolerable sampling (10%)

The number of farmers involved in the development of community forest amounted to 147 people (68 people from Tlogoguwo Village and 79 people from Somongari Village).

$$n = \frac{147}{1 + 147(0{,}10)^2} = \frac{147}{2.47} = 59.51$$

= rounded to 60

The allocation of farmers'sample was found out into strata (village) using the formula proposed by Sugiyono (2001), as follows:

$$ni = \frac{Ni}{N} x\, n$$

Notes:

ni = Sample's size of i
Ni = Population's size of i
N = Total population size
n = Total sample size

1. Sample size for village 1

$$ni = \frac{68}{147} x\, 60 = 28$$

2. Sample size for village 2

$$ni = \frac{79}{147} x\, 60 = 32$$

Based on these calculations, it is known that the sample of farmers in this study amounted to 60 people, scattered in two forest villages, 28 people from Tlogoguwo Village and 32 people from Somongari Village.

Data collection technique

Data collection was performed using interview method by using questionnaire that have been prepared: 1). Primary data are data obtained from interviews with farmers using a list of statements that have been prepared previously. 2). Secondary data are supporting data obtained from literature study and various institutions related to the research.

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To facilitate the interpretation of the data obtained, the scores of participation rates for community forest development are classified using the class interval formula proposed by Jogiyanto (1994), as follows:

$$i = \frac{R}{I}$$

Notes:
i = Class interval
R = Range (the largest data – the smallest data)
I = Number of classes

From the value of the interval, the level of farmers participation in the development of community forests is classified into 3 categories, namely

a. Farmers participation is low/poor, with score of 25 – 50
b. Farmers participation is quite good/moderate, with score of 51 – 75
c. Farmers participation is good/high, with score of 76 – 100.

Data analysis technique

To determine the correlation of variables of education level, farming experience, land area, as well as income of farmer and participation level in development of community forest, Spearman correlation coefficient test (rs) was used with formula stated by Wijaya (2000) as follows:

$$rs = 1 - \frac{6\Sigma di^2}{n(n^2 - 1)}$$

Notes:
rs = Correlation coefficient
di = ranking difference
n = Sample's size

To find out th level of closeness, according to Hadi (1983), there are 5 levels of closeness relationship based on rs value, that is as follows:

Interpretation of rs value	
Very weak	0,00 - 0,20
Weak	0.21 - 0.40
Medium	0.41 - 0.60
Strong	0.61 - 0.80
Very strong	0.81 - 1.00

The significant level of correlation between socio-economic factor variable (X) and farmer participation (Y) (rs value) is performed by t-test approach, with steps stated in Wijaya (2000), as follows

1. Hypothesis
H_0: rs = 0
H_1: rs ≠ 0
2. Test t

$$t_{test} = rs\sqrt{\frac{n-2}{1-(rs)^2}}$$

Notes:
t : Distribution t

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rs : Correlation coefficient
n : Sample size

Based on these calculations, then compared with the value of t_{table} at 95% confidence level, with degrees of freedom (db = n - 2), it can be deduced as follows:

H0 : accepted, if $t_{test} < ta/2(n-2)$, there is no significant correlation between educational level, farming experience, community forest area, as well as farmer household income and farmer participation in community forest development.

H1 : accepted, if $t_{test} > ta/2(n-2)$, means there is a significant correlation between educational level, farming experience, community forest area, as well as farmer household income and farmer participation in community forest development.

RESULTS AND DISCUSSION

Vegetable crops grown by farmers are 98 ha and 64 ha of shallots, producing 808.50 tons and 548.48 tons, with productivity of 8.25 tons and 8.57 tons per hectare.

Table 2. Producing Trees, Production and Productivity of Fruits in Tlogoguwo and Somongari Villages in 2016

No.	Type of Fruit	Producing trees (trees)		Production (kg)		Productivity (kg/tree)	
		Tlogoguwo	Somongari	Tlogoguwo	Somongari	Tlogoguwo	Somongari
1.	Guava	789	411	244	127	30,93	30,90
2.	Mango	7.895	7.500	5.724	5.510	72,50	73,47
3.	Jackfruit	125	128	20	20	16,00	15,63
4.	Papaya	258	365	65	92	25,19	25,21
5.	Banana	10.025	7.375	1.955	1.434	19,50	19,44

Source : Kaligesing District Monograph (2016)

Other crops managed by the community in community forest management in the study sites are as follows:

Table3. Producing Trees, Production and Productivity of Plantation and Forestry Plants in Tlogoguwo and Somongari Villages in 2016.

No.	Type of Plants	Producing Trees (Trees)		Production (ton)		Productivity (ton/tree)	
		Tlogoguwo	Somongari	Tlogoguwo	Somongari	Tlogoguwo	Somongari
1.	Coconut	16.857	14.668	1.285	1.153	76,25	78,62
2.	Kapok Tree	1.011	989	8,65	8,50	8,56	8,59
3.	Teak Tree	186.520	143.480	39.169*	33.000*	0,21	0,23
4.	Mahogany	9.879	10.121	1.581*	1.518*	0,16	0,15
5.	Sengon Tree	3.785	2.615	568*	445*	0,15	0,17

Notes: *) m^3at 7 – 15 years old

Source :Department of Agriculture Forestry and Soil Conservation of Purworejo Regency (2016)

Types of livestock that many people raise are sheep, domestic poultry, and some other types of poultry, but this activity is only used as a sideline activity. The livestock yield can increase farmers' income. In addition, manure from livestock can be used as organic fertilizer for the needs of forestry crops, and food and vegetable crops. Fishery activities in general are still an sideline activity, and depending on the state of the water.

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Farmer's Income

Farmer's income is the average income from farmers of the respondents calculated from the results of farming and additional income from outside farming. Revenue of respondent farmers can be seen in the following table.

Table 4. Average Revenue of Respondents' Farmers per Year

No.	Source of Income	Farmer's Income (Rp/Year)	
		Tlogoguwo Villages	Somongari Villages
1.	Community Forest	0	0
2.	Crops	2.437.500	773.438
3.	Laborers	153.571	253.906
4.	Merchant	682.143	218.750
5.	Etc	489.286	493.750
	Total	3.762.500	1.739.844

Notes: Community forest have not produced results (only 3 years of age)

According to Table 4, the income of farmers from community forest is not available yet, because the community forest managed by the farmers is only 3 years old and has not produced yet.

Level of Participation in Community Forest Development

Farmers participation in community forestry development is the participation of farmers in planning, implementation, utilization of forest products, and evaluation and monitoring of community forest development. Participation in the development of community forests in the study sites is moderate, with average score of farmer participation, each of 71.54% and 56.78% of the expectation score of 100. Participation of farmers in the development of community forest can be seen in the following table.

Table 5. Farmers Participation Rate in Community Forest Development

No.	Component Participation of Community Forest	Score		Kategori
		Expectation	Reality	
A.	Tlogoguwo Village			
1.	Planning	20	17,54	High
2.	Implementation	56	33,82	Moderate
3.	Monitoring	12	11,07	High
4.	Evaluation	12	9,11	High
	Jumlah	100	71,54	Moderate
B.	Somongari Village			
1.	Planning	20	14,25	Moderate
2.	Implementation	56	26,66	Low
3.	Monitoring	12	9,00	Moderate
4.	Evaluation	12	6,88	Moderate
	Participation Score	100	56,78	Moderate

Source : Primary processed data (2017)

According to Table 5, the description of farmer participation rate in the development of community forest is as follows:

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1. Planning

Farmer's participation in community forest development planning includes: (a) following in the process of group formation, (b) the process of formulating and planning community forest programs, (c) understanding the types of community forest crops, (d) understanding seed needs per hectare, and (e) understanding the planting schedule plan.

Farmer participation rate in community forest development planning in Tlogoguwo village is categorized as high with score of 17,54 (87,68%), while for Somongari Village classified with medium category with score 14,25 (71,25%).

2. Implementation

The level of farmer participation in the implementation of community forest development includes: (a) understanding in the making of planting holes, (b) planting seedlings in accordance with technical guidelines, (c) use of spacing in accordance with technical guidelines, (d) patching seedlings in accordance with technical guidelines, (e) use of spacing in accordance with technical guidance, (f) watering in accordance with technical guidance, (g) understanding the use of fertilizer types in accordance with technical guidelines, (h) use of organic and inorganic fertilizer doses in accordance with technical guidelines, (i) pest control according to technical guidelines, (j) thinning and, (k) harvesting.

Farmer participation rate in the implementation of community forest development in Tlogoguwo Village is categorized as medium/moderate with score 33,82 (60,40%), while for Somongari Village is categorized as low with score 26,66 (47,60%).

3. Monitoring

Farmer participation rates in monitoring community forest development include: (a) plant growth, (b) crop maintenance and (c) pest control.

Farmer participation rate in monitoring the development of community forest in Tlogoguwo Village is categorized as high with score of 11,07 (92,26%), while for Somongari Village categorized as medium category, with score of 9 (75%).

4. Evaluation

The level of farmer participation in the evaluation of community forest development includes: (a) the development of community forests, (b) the growth rate of community forest crops and (c) development of farmer groups.

Farmer participation rate in evaluation of development of community forest in Tlogoguwo village is categorized as high with score 9,11 (75,89%), while for Somongari Village categorized as medium/moderate with score 6,88 (57,29%). The number of farmers based on the classification of participation levels in the development of community forest can be seen in the following table.

Table 6.Classification of Farmers Participation Rate in Community ForestDevelopment

No.	Farmers Participation Rate	Tlogoguwo Village		Somongari Village	
		Quantity	(%)	Quantity	(%)
1.	Low (20 – 50%)	3	10,71	9	28,12
2.	Medium (51 – 75%)	14	50,00	23	71,88
3.	High (76 – 100%)	11	39,29	0	0,00
	Jumlah	28	100,00	32	100,00

Source : Primary processed data (2017)

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Table 6 shows that most farmers' participation in the development of community forests in Tlogoguwo and Somongari villages is medium, i.e. 14 people (50%) and 23 people (71,88%), respectively, while for the low category in the Tlogoguwo village there are 3 people (10,71%) and in Somongari Village there are 9 people (28,12%), and for high category in Tlogoguwo Village there are 11 people (39,29%).

Level of Successful Development of Community Forest

Based on the results of interviews with farmers of respondents, it shows that the success rate of community forest development in Tlogoguwo and Somongari villages is quite successful, with the average score of success rate of community forest development are 72.20% and 61.30% of the expectation score of 60, respectively. The details about the success rate of community forest development in Desa Tlogoguwo and Somongari Village can be seen in the following table.

Table 7. Level of Successful Development of Community Forest

No.	Components of Community Forest Success	Score		Category
		Expectation	Reality	
A.	*Tlogoguwo Village*			
1.	Knowledge	12	7,93	Quite successful
2.	Technical Ability	16	10,96	Quite successful
3.	Economic Value	24	18,57	Successful
4.	Benefit Aspect	8	5,86	Quite successful
	Total	60	43,32	Quite successful
B.	*Somongari Village*			
1.	Knowledge	12	6,91	Quite successful
2.	Technical Ability	16	9,97	Quite successful
3.	Economic Value	24	14,94	Quite successful
4.	Benefit Aspect	8	4,97	Quite successful
	Total	60	36,78	Quite successful

Source : Primary processed data (2017)

According to Table 7, the description of the success rate of community forest development is as follows:

1. Farmer's Knowledge of Community Forest

Farmer's knowledge of community forests includes: (a) knowing and understanding the objectives of community forest development, (b) knowing and understanding the functions of community forests and (c) knowing and understanding suitable sites for community forest development.

The success rate of community forest development is seen from the aspect of farmer's knowledge about community forest in Tlogoguwo village which is quite successful with score of 7.93 (66,07%), as well as that in Somongari Village with score 6,91 (57,55%).

2. Technical Development Capacity of Community Forest

The technical capabilities of community forest development include: (a) plant density, (b) plant spacing, (c) height of wild plants, and (d) soil conservation.

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The success rate of community forest development in terms of technical ability of farmers in Tlogoguwo Village is quite successful with a score of 10.96 (68.53%), as well as in Somongari Village with score 9.97 (62.30%) .

3. Economic Value of Community Forest Development

The economic value of forest development includes: (a) knowing and developing wood for industrial raw materials, (b) knowing and developing wood for carpentry purposes, (c) knowing and developing wood for wood fuel, and developing wood for hydrological purposes, (e) knowing and developing wood for the economic and fruits, and (f) the use of cropping patterns with crops.

The success rate of community forest development in terms of economic value aspect in Tlogoguwo Village is categorized as successful with the score of 18.57 (77.38%), while that in Somongari Village is quite successful category, with score of 14,94 (62,24%).

4. Aspects of Benefit of Community Forest Development

Aspects of the benefits of community forest development include: (a) increasing farmers' income and (b) improving the welfare of farmers.

The success rate of community forest development in Tlogoguwo Village is quite successful with a score of 5.86 (73.21%), a Somongari well as in Somongari Village with score of 4.97 (62.11%).

The number of farmers based on the classification of success rates of community forest development can be seen in Table 8.

Table 8.Classification of Success Rate of Community Forest Development

No.	Level of Successful Community Forest	Tlogoguwo Village		Somongari Village	
		Quantity	(%)	Quantity	(%)
1.	Less Succesful (25 – 50)	2	7,14	4	12,50
2.	Quite Succesful (51 – 75%)	14	50,00	26	81,25
3.	Succesful (76 – 100%)	12	42,86	2	6,25
	Jumlah	28	100,00	32	100,00

Source : Primary processed data (2017)

According to Table 8, the successful rate of community forest development for Desa Tlogoguwo and Somongari Village is quite successful, i.e. 14 people (50%) and 26 people (81,25%) respectively, while the successful category for Desa Tlogoguwo are as many as 12 people (42,86%) and for Somongari Village are as many as 2 people (6,25%), and for less successful category in Desa Tlogoguwo there are 2 people (7,14%), and for Somongari Village there are as many as 4 people (12 , 50%).

Relationship of Socio-Economic Factors with Farmers Participation Rate in Community Forest Development

In accordance with the hypotheses and frameworks that have been put forward in the previous chapter, the following describes the close relationship between socio-economic factors of farmers and the participation of farmers in the development of community forests. Socio-economic factors of farmers include: the level of education, experience of farming, the area of arable land and income of farming per year. The results of the calculation indicate that there is a significant relationship between socio-economic factors of farmers (education level, farming experience, cultivated land area and household income) and the level of farmer participation in the development of community forests. The details can be seen in table 9.

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Table 9. Relationship of Socio-Economic Factors with Farmers Participation Rate in Community Forest Development

Variabel	Rs	t_{test}	$t_{0.05}$
Level of Education	0,324	2,608*	2,000
Farming Experience	0,332	2,682*	2,000
Farming Land Area	0,487	4,242*	2,000
Household Income	0,464	3,990*	2,000

Notes: significantly different

Relationship of Education Level with Farmer's Participation in Community Forest Development

The calculation of Spearman Rank Correlation test statistic obtained r value = 0.324, the coefficient value is in weak category. This means the relationship between the level of education of farmers and the participation of farmers in the development of community forests is 0.324. From the results of significance test, it was obtained that t_{test} 2,608 was greater than $t_{0.05}$ 2,000 at 5% level, meaning the relationship of education level with the level of participation of farmers in the development of community forests is significantly different.

Relationship of Farming Experience with Farmers Participation Rate in Community Forest Development.

The calculation of Spearman Rank Correlation test statistic obtained r value = 0.332, the correlation coefficient value is in weak category. This means there is a relationship between farmers' farming experience and farmers' participation in community forest development by 0.332. From the significance test, it was obtained that t_{test} 2,682 was bigger than $t_{0.05}$ 2,000 at 5% level, meaning there is a significant relation between experience farming farmer and participation of farmer in development of community forest. This shows that the longer the farmers experience in farming will be followed by the level of farmer participation in the development of community forests is getting better.

Relationship of Cultivated Land Area with Farmers Participation Rate in Community Forest Development.

The calculation of Spearman Rank Correlation test statistic obtained r value = 0.487, correlation coefficient value is included in medium category. This means there is a relationship between the land area and the participation of farmers in the development of community forests of 0.487. From the significance test, it was obtained that t_{test} 4,242 was bigger than $t_{0.05}$ 2,000 at 5% level, meaning there is a significant relationship between farming land area and the participation of farmers in the development of community forest. It shows that the wider farmers' land will be followed by the better participation of farmers in the development of community forests.

Relationship of Household Income with Farmer Participation Rate in Community Forest Development.

The calculation of Spearman Rank Correlation test statistic obtained r value = 0.464, the correlation coefficient value is classified as medium. This means there is a relationship between the land area and the participation of farmers in the development of community forests of 0.464. From the significance test , it was obtained that t_{test} 3,990 was bigger than $t_{0.05}$ 2,000 at 5% level, meaning there is a significant relationship between household income and farmer participation in development of community forest. This shows that the greater income of farm households will be followed by the level of farmer participation in the development of the better community power.

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Participation Rate of Farmers Participation with Successful Development of Community Forests

Based on the calculations, it shows that there is a significant relationship between the level of farmer participation and the success of community forest development. The details can be seen in Table 10.

Tabel 10. Relation between Farmers Participation's Rate and Successful Development of Community Forests

Variabel	Rs	t_{test}	$t_{0.05}$
Farmers Participation's Rate	0,804	10,315*	2,000

Notes: *) Significantly different

The calculation of Spearman Rank Correlation test statistic obtained r value = 0.804, the correlation coefficient value is categorized strong. This means there is a significant relationship between the level of participation of farmers and the successful development of community forests of 0.804. From result of significance test, it was obtained that t_{test} 910,315 was bigger than $t_{0.05}$ 2,000 at 5% level, meaning there is a significant relation between level of farmer participation and community forest development. This shows that the greater the level of participation of farmers will be followed by the higher success rate of the development of the r the community (successful).

Differences of Farmers' Participation in the Development of Community Forests between Desa Tlogoguwo Farmers and Somongari Villages

Based on statistical test using U Mann and Whitney test, it shows that there is difference of farmer participation level in the development of community forest between farmer of Tlogoguwo Village and farmer of Somongari Village. For more details, the calculation of differences in the participation rate of farmers in Tlogoguwo and Somongari Villages can be seen in Table 11.

Tabel 11. U Mann and Whitney Test of Farmer's Participation in the Development of Community Forests between Tlogoguwo Farmers and Somongari Village Farmers

No.	Description	Farmer Participation Score
1.	Tlogoguwo Village	41,36
2.	Somongari Village	21,00
2.	Z_{test}	4,504*
3.	$Z_{0.05}$	1,960

Notes: *) Significantly different

From the signification test results, it was obtained that Z_{test} (4.504) was greater than $Z_{0.05}$ (1.960) at 5% level, then H_0 was rejected and H_1 was accepted, meaning there is a significant difference of farmers participation in the development of community forests between farmers in Tlogoguwo village and farmers in Somongari Village .

Differences in the level of participation of farmers in the development of community forests is due to the different accessibility to the community forest development land of the two villages. The community development land of Tlogoguwo village is not far from the settlement, so farmers will be more intensive in the management of community forests, whereas Somongari Village community forest development land is quite far from settlement,

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so the participation of farmers in the management is less intensive, and ultimately the success of community forest is relatively low. In addition, the average farmland area of Tlogoguwo village in community forest development is relatively broader compared to Somongari Village, so it can strengthen farmer participation level in community forest development.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of research and discussion that have been described in advance, it can be concluded as follows:

1. Farmers' participation in community forest development in Tlogoguwo and Somongari villages is moderate, with average score of farmer participation rate are 71.54% and 56.78%, respectively.
2. There is a significant relationship between education and farmer participation in community forest development.
3. There is a significant relationship between farming experience and farmer participation rate in community forest development.
4. There is a significant relationship between the land area and the level of farmers participation in the development of community forests.
5. There is a significant relationship between household income and farmer participation rate in community forest development.
6. There is a significant relationship between the level of farmer participation and the success of community forest development
7. There is a significant difference in the level of farmer participation in the development of community forests between farmers in Desa Tlogoguwo and Somongari Village. The participation rate of Desa Tlogoguwo farmers is better than Somongari Village

SUGGESTION

Based on these conclusions, the following suggestions can be put forward:

1. It is necessary to improve the development of farmers through farmers groups, so it is expected to grow the ability of farmers in the development of community forests.
2. Further research is necessary to see how far the work motivation of farmers in the development of community forests, so that farmers feel confident that by developing community forestry farms can increase farmers' income.

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