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THE ROLE OF FARMER'S GROUP LEADER IN IMPLEMENTING THE COCOA CULTIVATION TECHNOLOGY AT PATUK SUB-DISTRICT, GUNUNGKIDUL REGENCY

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ABSTRACT

This research aims to find out the role of the farmer group leader in the implementation of cocoa cultivation technology and its influencing factors and to find out the factors that influence the implementation of cocoa cultivation technology at Patuk Subdistrict, Gunungkidul Regency. The subdistrict was chosen using the purposive sampling method, whilethe sample of the village and respondents were selected using simple random sampling. The selected subdistrict is Patuk Subdistrict, and the sample of villages are Bunder Village, Nglanggeran Village, Ngoro-Oro Village, and SalamVillage. Fifteen farmer group members were collected from each village, so the total sample was 60—this research using proportion test and multiple linear regression analysis. The results showed that the role of the farmer group leader is in the high category. Individual farmers' group leader quality has a significant and positive influence on thefarmer group leader's role, while age and education level have no significant effect on the farmer group leader's role.Farmer's attitude and the livelihood of farmers in the counseling have a significant and positive impact on the application of cocoa cultivation technology. In contrast, the age, education level, quality of individual farmer group leader, farmer's motivation, the farmers' liveliness in the extension, and land area have no significant effect on the application of cocoa cultivation technology.
Keywords: Application of Cocoa Cultivation Technology, Farmer Group Leader, Role

INTRODUCTION

Indonesia is one of the countries capable of producing and exporting several plantation crop commodities, namely cocoa. Cocoa production in Indonesia is already the third-largest in the world. Based on statistics from the International Cocoa Organization (ICCO) for 2014/2015, Indonesia was able to rank third as a cacao exporting country with 325,000 tons of cocoa beans after Ivory Coast with 1,726,000 tons of cocoa beans and Ghana with 740,000 tons of cocoa beans. Indonesia has the potential to become the largest cocoa producing country in the world. Indonesia's potential to increase cocoa production must be optimized in line with the high public interest in cocoa processed products.

Gunungkidul Regency is one of the districts in the Special Region of Yogyakarta Province, cultivating cocoa plants. Based on data from the Central Statistics Agency, the land for cocoa commodities in the Gunungkidul Regency is 1,403 hectares, with a cacao production of 327 tons (Directorate General of Plantation, 2015). Some farmers in Gunungkidul Regency carry out cocoa cultivation because cocoa commodities can provide a source of income. Besides that, the environmental conditions are following the requirements for growing cocoa plants. One of the districts in Gunungkidul Regency that carries out cocoa cultivation is Patuk Sub-District.

Patuk Sub-District is a potential sub-district in cocoa production. Patuk Subdistrict has not been able to meet the high demand for cocoa, and the quality of cocoa pods is not optimal. According to Susanto (1994), cit. Widyastuti & Gunawan (2016), one of the efforts to increase cocoa production, can be made by applying agricultural cultivation technology and controlling plant pests.

The majority of cocoa farmers in Patuk Sub-District are members of farmer groups. At least, cocoa farmers have a bridge that connects access to cocoa cultivation technology through farmer groups. In applying cocoa cultivation technology, the farmer group members share information about cultivation technology applied by farmers. A farmer group certainly has a leader who is in charge of mobilizing and directing the farmer group members to achieve the group's goals. A leader can influence, mobilize, guide, and direct members by utilizing existing resources to achieve goals (Nurhayati, 2012). The leader of the farmer group is called the head of the farmer group. The head of the farmer group in the innovation diffusion process plays a role in fostering farmer group members' interest in developing innovations (Pertiwi and Heryadi, 2012).

The joining of the Gunungkidul Regency Plantation and Forestry Service with the

Gunungkidul Regency Agriculture and Food Security Service and several other agencies to become the Gunungkidul Regency Agriculture and Food Service, resulting in the reduced focus of the district government on the plantation sector, especially cocoa plants in Patuk Sub-District, Gunungkidul Regency. This institutional change indirectly affects the activities of cocoa farmer groups in Patuk Sub-District, Gunungkidul Regency.

The declining activity of cocoa farmer groups due to institutional changes at the district level requires a farmer group leader to re-activate activities within the farmer group in applying cocoa technology. However, conditions in the field indicate that the farmer group leader's role is not yet optimal. Therefore, this study was conducted to determine the farmer group leader's role in applying cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

Based on previous research results, the head of farmer groups, according to Putra (2016), is influenced by the farmer's age, farmer education, farmer motivation, and extension workers' role. Factors that influence the farmer group leader's role include respondent motivation and group atmosphere (Metalisa et al., 2014). Other research related to the factors that influence the role of farmer group leaders, according to Zakariyya (2010), includes the nature, behavior, and power of the leader.

The application of technology by a person is the result of a process, namely adoption. Adoption is a process of behavior change that occurs in a person after receiving a counselor's message,r which includes knowledge, attitudes, or skills (Mardikanto, 1993 cit. Tarukallo et al., 2014).

According to Putra (2016), farmers' adoption level is influenced by the farmer group leader's role and the extension workers. Another research related to technology adoption wascarried out by Burhansyah (2014), where the factors that influence adoption include education, land area, accessibility to innovation sources, and accessibility to roads. According to Simanjuntak et al. (2014), the factors that influence adoption are farmers' attitudes, while according to Kleden (2014), adoption is influenced by attitudes, age, and social leaders' role.

METHOD

The primary method used in the following research is both qualitative and quantitative, with a quantitative approach through survey techniques. The research was conducted in Patuk Sub-District, Gunungkidul Regency, which consisted of 11 villages. A sampling of respondents was carried out using a simple random sampling method so that the villages of Bunder, Nglanggeran, Ngoro-oro, and Salam were selected. Each village was selected purposively by active farmer groups. Bunder Village consists of 5 active cocoa farmer groups. Each taken by three respondents, Nglanggeran Village, consists of 5 active cocoa farmer groups, each taken by three respondents. Ngoro-oroVillage consists of 15 from 1 farmer group, and Salam Village consisted of 3 farmer groups, five respondents. The number of samples in this study was 60 cocoa farmers.

The data was collected using observation, interview, recording, and literary techniques. The data obtained are primary data and secondary data. In this study, the data were analyzed using the proportion test and multiple linear regression analysis, which are detailed as follows:

1) Proportion Test

The first hypothesis testing was carried out using the proportion test to determine the farmer group leader's role in applying cultivation technology in Patuk Sub-District, Gunungkidul Regency.

a. The first hypothesis in this study is as follows:

Ho : P ≤ 50%

Ha : P > 50 %

In which:

Ho: It is estimated that less than 50% of farmer group members think that the farmer group's head has a high role in applying cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

Ha: It is estimated that more than 50% of farmer group members consider the head of the farmer group to have a high role in applying cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

b. Significance level on α = 0.05 or 5% with n = 60.

c. Testing Criteria

Z-value > Z-table : Ho is rejected, Ha accepted

Z-value ≤ Z-table : Ho accepted, Ha is rejected.

d. The test statistics in this study were carried out with the following formula:

$$Z - value = \frac{\frac{x}{n} - Po}{\sqrt{\frac{Po(1-Po)}{n}}} \quad \ldots\ldots\ldots\ldots(1)$$

In which :

x = number of sample farmers who assess the role of the head of the cocoa farmer group in the high category

n = the total number of sample farmers

Po = 50%

2) Linear Regression Analysis

Hypothesis testing in this study was conducted using multiple linear regression analysis to determine the factors influencing the farmer group leader's role in applying cultivation technology in Patuk Sub-District, Gunungkidul Regency.

a. The second hypothesis in this study is:

Ho : X1 = X2 = X3

Ha : X1 ≠ X2 ≠ X3

In which:

Ho : There is no influence of age, education level, and self quality of farmer group leaders on the role of farmer group leaders in applying cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

Ha: There is an influence of age, level of education, and quality of the farmer group head on the role of the farmer group leader in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency

b. The test statistics in this study are:

Y= A + b1X1 + b2X2 + b3X3+ e…..... (2)

In which:

Y : the role of the head of the farmer group
A : constant value
b1-b3 : regression coefficient
X1 : age
X2 : education
X3 : the quality of the head of the farmer group
e : error value

c. Testing criteria

Data analysis for hypothesis testing was carried out using

SPSS 23.0 software with the following criteria:

a. R square or the coefficient of determination can show the dependent variable's percentage by the independent variable. The number of independent variables of more than two can use the adjusted R square.

b. ANOVA test or F test can show whether the independent variables jointly affect the dependent variable. The independent variables jointly affect the dependent variable if the test results' sig value is less than the α value (0.05 or 5%).

c. The t-test can show that each independent variable affects or does not affect the dependent variable. Conclusions can be drawn if:

The sig value <α value (0.05 or 5%) means that Ho is rejected, Ha is accepted

The sig value ≥ α (0.05 or 5%) means that Ho is accepted, Ha is rejected

3) Linear Regression Analysis

The third hypothesis testing uses multiple linear regression analysis to determine the factors that influence the application of cultivation technology in Patuk Sub-District, Gunungkidul Regency.

a. The third hypothesis in this study is:

Ho : X1 = X2 = X3

Ha : X1 ≠ X2 ≠ X3

In which:

Ho: There is no influence on the role of the farmer group leader, farmer attitudes, farmer motivation, farmer activeness in counseling, land area, and other factors (age, education level, and the quality of the farmer group leader) in the application of cocoa cultivation technology in Patuk Sub-District. Gunungkidul Regency.

Ha: There is an influence on the influence of the role of the farmer group leader, farmer attitudes, farmer motivation, farmer activeness in counseling, land area, and other factors (age, education level, and the quality of the farmer group leader) in the application of cocoa cultivation technology in Patuk Sub-District. Gunungkidul Regency

b. The test statistics in this study are:

Y= A + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + b6X6 + b7X7+ b8X8 + e…..... (3)

In which :

Y : application of cocoa cultivation technology
A : constant value
b1-b4 : regression coefficient
X1 : age
X2 : education
X3 : the quality of the head of the farmer group
X4 : the role of the head of the farmer group
X6 : farmer motivation
X7 : activeness in counseling
X8 : land area
e : error value

c. Testing criteria

Data analysis for hypothesis testing was carried out using SPSS 23.0 software with the following criteria:

a. R square or the coefficient of determination can show the dependent variable's percentage that can be the independent variable. The number of independent variables of more than two can use the adjusted R square.

b. ANOVA test or F test can show whether the independent variables jointly affect the

dependent variable. The independent variable simultaneously affects the dependent variable if the test results' sig value is less than the α value (0.05 or 5%).

c. The t-test can show that each independent variable affects or does not affect the dependent variable. Conclusions can be drawn if:

The sig value <α value (0.05 or 5%) means that Ho is rejected, Ha is accepted.

The sig value ≥ α (0.05 or 5%) means that Ho is accepted, Ha is rejected.

RESULTS AND DISCUSSION

The Role of the Chair of the Farmer Group in the Application of Cocoa Cultivation Technology in Patuk Sub-District, Gunungkidul Regency

The role, according to Fitrianingrum (2011), is a set of behaviors that are expected by others towards someone who has a particular position in a system, while the head of a farmer group is someone who has the responsibility to guide members of the farmer group towards a common goal of welfare. In this study, the farm group's head-up is thought to apply cocoa farmers' cocoa cultivation technology. Based on the research results, the head of the farmer group in Patuk Sub-District, Gunungkidul Regency, can be seen in Table 1.

Table 1. The Role of the Chair of the Farmers Group in Patuk Sub-District, Gunungkidul Regency

Number	Indicators	Score Interval	Average Score	Role Level (%)
1	The role of the group leader in delivering complete information about cocoa cultivation	0 – 3	2.19	73.02
2	The role of the group leader in delivering accurate information about cocoa cultivation	0 – 5	4.14	82.86
3	The role of the group leader in delivering information about cocoa cultivation systematically	0 – 5	4.08	81.58
4	The role of the group leader in delivering information about cocoa cultivation that is easy to understand	0 – 5	4.16	83.12
5	The role of the group leader in delivering information about the actual cocoa cultivation	0 – 5	4.08	81.58
6	The role of the group leader in delivering information about cocoa cultivation according to the needs of the members	0 – 3	2.33	77.78
7	The role of the group leader in facilitating the relationship between members and related agencies to obtain information	0 – 2	1.43	71.43
8	The role of the group leader in facilitating members to obtain capital from other sources (bank and cooperatives)	0 – 2	0.71	35.71
9	The role of the group leader is in facilitating members to obtain agricultural machine tool assistance	0 – 3	1.95	65.08
10	The role of the group leader in facilitating members to obtain agricultural production facilities assistance	0 – 3	2.05	68.25
11	The role of the group leader in encouraging members to be active in group meetings or outreach activities	0 – 4	3.57	89.29
12	The role of the group leader is in encouraging members to apply new technology in cocoa cultivation	0 – 3	2.51	83.60
13	The role of the group leader in helping members solve cocoa cultivation problems	0 – 3	2.29	76.19
14	The role of the group leader in providing new ideas or new information related to cocoa cultivation	0 – 3	2.11	70.37
	Total	0 – 49	37.60	
	Average			76.73

Source: Primary Data Analyzed in 2018

Based on Table 1, it can be seen that the role of the head of the farmer group in Patuk Sub-District, Gunungkidul Regency has a percentage of 76.73,% which means that the role of the farmer group leader has a high role as a leader in the application of cocoa cultivation technology. The head of the farmer group has carried out his role well as a group leader—the head of the farmer group's role based on assessing the member groups' different members. Therefore, the analysis is carried out on the farmer group leader's role based on assessing the member group by members

viding two categories, including low categories with a total score of 0-24.5 and high with 24. 6-29) are presented in Table 2.

Table 2. Distribution of Farmers According to the Role of the Chair of the Farmer Group in Patuk Sub-District,Gunungkidul Regency in 2018

Number	Category (score)	Total (people)	Percentage (%)
1	Low (0-24.5)	3	5.00
2	High (24.6-49)	57	95.00
	Total	60	100.00

Source: Primary Data Analyzed in 2018

Table 2 shows that 57 farmers stated that the role of the group leader in Patuk Sub-District, Gunungkidul Regency was in the high category, while three farmers stated that the role of thefarmer group leader was in a low category. Analysis of the data used to determine the level ofthe role of the farmer group leader in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency can be seen by analyzing the data using the proportion test as follows:

$$Z - value = \frac{\frac{x}{n} - Po}{\sqrt{\frac{Po(i - Po)}{n}}}$$

$$Z - value = \frac{\frac{57}{60} - 0.5}{\sqrt{\frac{0.5(1 - 0.5)}{60}}}$$

$$= \frac{0.45}{0.064}$$

$$= 7.031$$

a. Testing Criteria
Z-value > Z-table : Ho is rejected, Ha accepted
Z-value ≤ Z-table : Ho is accepted, Ha is rejected
b. Conclusion
Z-value = 7.031
Z-table = -1.645
Z-value > Z-table: Ho is rejected, Ha accepted

Based on the results of calculations using the proportion test, the calculated Z value is 7.031. The calculated Z value obtained is greater than the Z table value, which is equal to -1,645. These results indicate that Ho is rejected and Ha is accepted. Ho has rejected the suspicion that less than 50% of farmer group members thought that the head of the farmer group had a high role in applying cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency. Ha accepted. It is suspected that more than 50% of farmer group members consider the head of the farmer group to have a high role in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

Factors Affecting the Role of the Leader of the Farmer Group in the Application of Cocoa Cultivation Technology in Patuk Sub-District, Gunungkidul Regency

Several factors influence the farmer group leader's role in the application of cocoa cultivation technology. In this study, the factors that were thought to influence the farmer group leader's role in cocoa cultivation technology were the farmer's age, education level, and the farmer group leader's quality. The influence of the factors that influence the farmer group leader's role in applying cocoa cultivation technology can be proven by testing using multiple linear analysis on SPSS 23.0 software—using the backward method. The results of multiple linear regression analysis on the factors suspected of the farmer group leader's role in the application of cocoa cultivation technology can be seen in Table 3.

Table 3. Results of Multiple Linear Regression Analysis of Factors that are suspected of Influencing the Role of the Farmer Group Chair in the Application of Cocoa Cultivation Technology in Patuk Sub-District, GunungkidulRegency in 2018 (Model 1)

Number	Variables	Regression Coefficient (B)	t-value	Sig	Information
1	Age of Farmers (X1)	-0.033	-0.384	0.702	NS
2	Level of education (X2)	-0.026	-0.082	0.935	NS
3	The quality of the head of the farmer group (X3)	1.152	5.142	0.000	*

	Constants	8.289
	R Square	0.321
	Adjusted Square	0.285
	F-value	8.844
	F-table	2.770
	t-table	2.003
	In which: * significant at the level 5% NS: Non-Significant	

Source: Primary Data Analyzed in 2018

Based on Table 3, it can be seen that the independent variable (X), which has no significant effect on the dependent variable (Y), is age and education level. The results of the analysis using the backward method obtained the last model, model 3. Model 3 consists of all independent variables that have a significant effect on the dependent variable. The final model can be seen in Table 4.

Table 4. Results of Multiple Linear Regression Analysis on Factors that are suspected of Influencing the Role of the Farmer Group Chair in the Application of Cocoa Cultivation Technology in Patuk Sub-District, Gunungkidul Regency in 2018 (Model 3)

Number	Variables	Regression Coefficient (B)	t-value	Sig	Information
1	The quality of the head of the farmer group (X3)	1.141	5.220	0.000	*
	Constanta	6.632			
	R Square	0.320			
	Adjusted R Square	0.308			
	F-value	27.25			
	F-table	4.020			
	t-table	2.002			
	In which: * significant at the level 5%. NS: Non-Significant				

Source: Primary Data Analyzed in 2018

Based on Table 4, it can be seen that of the three variables tested, only the variable of the quality of the head of the farmer group has a significant effect on the role of the head of the farmer group in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency with a variable significance value of 0.000 smaller than the α value. That is 0.05. The regression coefficient value of the self quality variable of the head of the farmer group is 1.141.

The adjusted R square value can show the accuracy of a regression equation. The adjusted R square value in this study was 0.308, which means that 30.8% of the variable of the role of the farmer group leader was influenced by the self-quality variable of the head of the farmer group, while the remaining 69.2% was influenced by variables from outside the model under study. The calculated F value in this research is 27.25, higher than the F table value, 4.020. It shows that the independent variable of the quality of the farmer group leader has a significant effect on the dependent variable, namely the role of the head of the farmer group in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

The t-value on the variable of the quality of the farmer group leader is 5.220. The t value can show the influence of the independent variable on the dependent variable. The t value of the head of the farmer group's self-quality variable is known to be greater than the t table value. The value of t Table is known to be 2.002, so it can be concluded that the variable of the quality of the head of the farmer group has a significant effect on the role of the head of the farmer group in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency. Therefore an analysis of the application of cocoa cultivation technology was carried out by dividing five categories including very low with a score of 0-10, low with a score of 11-20, moderate with a score of 21-30, high with a score of 31-40, and very high with a score of 41- 50 which is seen in Table 5.

Table 5. Distribution of Farmers according to the Application of Cocoa Cultivation Technology in Patuk Sub-District,Gunungkidul Regency in 2018

Number	Category (score)	Total (people)	Percentage (%)
1	Very low (0-10)	1	1.67
2	Low (11-20)	5	8.33
3	Moderate (21-30)	17	28.33
4	High (31-40)	17	28.33
5	Very high (41-50)	20	33.33
	Total	60	100.00

Source: Primary Data Analyzed in 2018

Data on the distribution of farmers based on Table 6. shows that as many as 20 farmers have a very high level of cocoa cultivation application. Seventeen farmers own the level of application of the high and medium category of cocoa cultivation. A total of 5 farmers have a low level of cocoa cultivation technology application, while one farmer has a deficient cocoa cultivation technology application.

Table 6. Results of Multiple Linear Regression Analysis of the Factors Suspected of Influencing the Application ofCocoa Cultivation Technology in Patuk Sub-District, Gunungkidul Regency in 2018 (Model 1)

Number	Variables	Regression Coefficient (B)	t-value	Sig	Information
1	Age of Farmers (X1)	-0.181	-1.486	0.143	NS
2	Education Level (X2)	-0.160	-0.353	0.726	NS
3	The quality of the head of the farmer group (X3)	0.520	1.358	0.180	NS
4	Role of Group Leader (X4)	-0.283	-1.444	0.155	NS
5	The attitude of Farmers (X5)	0.382	2.671	0.010	*
6	The motivation of Farmers (X6)	-0.149	-0.888	0.379	NS
7	Farmer Activeness in Extension (X7)	0.923	3.837	0.000	*
8	Land area (X8)	0.456	0.652	0.517	NS
	Constants	8.934			
	R Square	0.361			
	Adjusted Square	0.261			
	F-value	3.603			
	F-table	2.130			
	t-table	2.007			
	In which: * significant at the level 5% NS: Non-Significant				

Source: Primary Data Analyzed in 2018

Based on Table 6, it can be seen that in model 1, the variables of farmer age, education level, quality of the farmer group leader, the role of the farmer group leader, farmer motivation, and land area do not have a significant effect. In contrast, the variables of farmer attitudes and farmer activeness in counseling are influential—a significant impact on the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency. The results of the analysis using the backward method obtained the last model, model 7. Model 7 consists of all the variables that have a significant effect on the dependent variable. The final model can be seen in Table 7.

Table 7. Analysis Multiple Regression of Factors that Affect Cocoa Cultivation Technology Application in PatukDistrict, Gunungkidul Regency in 2018 (Model 7)

Number	Variables	Regression Coefficient (B)	t-value	Sig	Information
1	The attitude of Farmers (X5)	0.382	2.803	0.007	*
2	Farmer Activity (X7)	0.837	4.017	0.000	*
	Constant	-7.406			
	R Square	0.299			
	Adjusted R Square	0.275			

F-value	12.169
F-table	3.160
t-table	2.003
In which: * significant at the level 5%	
NS: Non-Significant	

Source: Primary Data Analyzed in 2018

The result of multiple linear regression analysis models 7 shows that the adjusted R square value is 0.299, which means 29.9% of the variable application of cocoa cultivation technology is influenced by farmer attitudes and farmer activeness in extension. In comparison, the rest is 70.1% of the variable application of cocoa cultivation technology. It is influenced by other variables that come from outside the model. The calculated F value in research equal to 12.169 is higher than the F table, which is 3.160. This value shows that the independent variables of farmers' attitudes and farmer activeness in extension simultaneously affect the dependent variable, namely the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

The influence of the independent variable on the dependent variable can be seen from the t value. The t value on the independent variable of farmer attitudes and farmer activeness in counseling was 2.803 and 4.017, respectively. The t value of the variable of farmer attitudes and farmer activeness has a greater value than the t table value of 2.003, so it can be concluded that the variable attitude of farmers and farmer activeness has a significant effect on the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

Based on model 7, it can be seen that the factors that influence the application of cocoa cultivation technology include:

a. Attitude of Farmers

Multiple linear regression analysis results showed that the farmer attitude variable had a significance value of 0.007. This significance value is smaller than the α value, namely 0.05, so it can be concluded that the variable attitude of farmers has a significant effect on the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

b. The activeness of Farmers in Extension

The results of the regression analysis for Model 7 show a significance value of 0.000, smaller than the α value of 0.05. These results indicate that the variable of farmer activity in counseling significantly affects cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out in this study, it can be concluded that:

1. The farmer group leader's role in applying technology in Patuk Sub-District, Gunungkidul Regency is included in the high category with a yield of 76.73%.
2. The factor affecting the head of the farmer group in the cocoa cult in Patuk Sub-Dcult int, Gunungkidul Regency, is the farmer group leader. The higher the farmer group leader's quality, the higher the farmer group lead application of the leader's role cultivation technology.
3. Factors that influence cocoa cultivation technology in Patuk Subdistrict, Gunungkidul Regency include farmer attitudes and farmer activeness in extension activities. The higher the farmer's attitude and farmer activity in extension activities, the higher the applied cultivation technology.

SUGGESTIONS

1. The role of the head of the farmer group in the application of cocoa cultivation technology in Patuk Sub-District, Gunungkidul Regency can be improved by maximizing the quality of the farmer group leader, especially in terms of the intelligence of the farmer group leader in farmer group activities to improve the application of cocoa cultivation technology by farmer group members.
2. The head of the farmer group, who is elected by the farmer group members, should show excellent self-quality in carrying out his duties as a leader by maintaining internal aspects to become a quality person.
3. Increasing the application of cocoacultivation technology by farmers in Patuk Sub-District, Gunungkidul Regency can be done by improving farmers' attitudes, especially in the cognitive aspects of applying cocoa cultivation technology by increasing farmers' insights related to the application of cocoa cultivation technology.
4. Increasing the application of cocoacultivation technology carried out by farmers in Patuk Sub-District, Gunungkidul Regencycan also be done by increasing the level of

farmer activity in extension activities, especially in the aspect of farmers conveying opinions or ideas when extension activities take place by stimulating farmers to be more active and courageous in expressing opinions or idea.

REFERENCES

Burhansyah, R. 2014. Faktor-Faktor yang mempengaruhi adopsi inovasi pertanian pada gapoktan PUAP dan non PUAP di Kalimantan Barat (Studi Kasus: Kabupaten Pontianak dan Landak). Informatika Pertanian 23(1): 65-74.

Direktorat Jendral Perkebunan. 2015. Statistik Perkebunan Indonesia 2014-2016. Direktorat Jenderal Perkebunan Jakarta, Jakarta.

Fitrianingrum, I. 2011. Peran Ketua Kelompok Tani pada Keaktifan Anggota di Kecamatan Minggir Kabupaten Sleman. Fakultas Pertanian. Universitas Gadjah Mada. Yogyakarta. Skripsi.

Kleden, Y. L. 2014. Faktor-faktor yang mempengaruhi adopsi teknologi infus asap di Kabupaten Timor Tengah Selatan, NTT-Indonesia. Kawistara 4 (2): 111 -224.

Metalisa R., A. Saleh, dan P. Tjitropranoto. 2014. Peran ketua kelompok wanita tani dalam pemanfaatan lahan pekarangan yang berkelanjutan. Jurnal Penyuluhan 10(2): 158-170.

Nurhayati, T. 2012. Hubungan kepemimpinan transformasional dan motivasi kerja. Jurnal Eduekos 1(2): 77-92.

Pertiwi, P. R. dan H. Heryadi. 2012. Peran kepemimpinan kontak tani dalam proses difusi inovasi teknologi pengelolaan tanaman dan sumberdaya terpadu padi. Jurnal Matematika, Sains, dan Teknologi 13(1): 51-63.

Putra, E. A. S. 2016. Peran Ketua Kelompok Tani dalam Adopsi Teknologi Budidaya Bawang Merah di Lahan Pasir Pantai Kecamatan Sanden Kabupaten Bantul. Fakultas Pertanian. Universitas Gadjah Mada. Yogyakarta. Skripsi.

Simanjuntak, S. A., W. Talib, dan E. Kernalis. 2014. Sikap petani terhadap penerapan teknologi budidaya kedelai lahan pasang surut (di Kelurahan Simpang Kecamatan Berbak Kabupaten Tanjung Jabung Timur). Sosio Ekonomika Bisnis 17 (1): 27-35.

Tarukallo, P. B., A. A. Unde, Ladaha. 2014. Faktor yang memengaruhi adopsi teknologi biopestisida oleh petani sayur di Sendana dan Purangi Kota Palopo. Jurnal Komunika 3(2): 125-132.

Widyastuti, A. dan Gunawan. 2016. Penguasaan Teknologi Petani dalam Usahatani Kakao dan Kambing di Taman Teknologi Pertanian (TTP) Nglanggeran Kabupaten Gunungkidul. Prosiding Seminar Nasional Penyuluhan dan Komunikasi Pembangunan. Sekolah Pasca Sarjana UGM, Yogyakarta.

Zakariyya, M. D. 2010. Hubungan kepemimpinan ketua kelompok tani dengan efektivitas kelompok tani di Kecamatan Pacitan Kabupaten Pacitan. Fakultas Pertanian. Universitas Sebelas Maret. Surakarta. Skripsi.