Motivation of Farmers in Group Management to Develop Maize Cultivation

Nurliana Harahap

Postgraduate Student of University of Negeri Medan and College of Agriculture Extension Medan (STPP Medan) Binjai Street Km 10, Tromol Pos 18, 20002 nurliana.harahap@gmail.com

Mahendra Ginting Manik

College of Agriculture Extension Medan (STPP Medan), Binjai Street Km 10, Tromol Pos 18, 20002 mahendragintingmanik@gmail.com.

Indah Listiana

Faculty of Agriculture, University of Lampung Gedong Meneng, Rajabasa, Bandar Lampung City, Lampung 35141 indahlistiana@yahoo.com

Abstract—The demand of corn is quite high for livestock food. In North of Sumatera, Batubara Regency 7 districts (included Sei Suka Sub-district) has the largest corn cultivation farmer. Farmers' efforts in conducting corn cultivation to develop and succeed requires motivation. The problem determined is how the level of motivation of farmers and what factors affect the motivation of farmers in the cultivation of maize. Because of this reason, the research was done from February until May 2018. This research was conducted by using quantitative descriptive method and multiple linear regression statistic analysis. The result showed that respondents were productive age 15-64 years as many as 48 people (85,6%). Then most of respondents were male (82,1%), more than 50% farmers based on education, the area of land planted with maize averaged less than 1 Ha, almost 70% of the land cultivated is self-owned. The experience of farming in the medium category, and income from corn farming still needs to be improved. Farmers' motivation in corn cultivation is high (78%). Factors such as: age, formal education, opinion and government assistance has no real effect.

Keywords—motivation, farmers, management group, maize, Batubara.

I. INTRODUCTION

Various efforts have been made to achieve these targets, not only by meeting the needs of production facilities and infrastructure (seeds/superior seeds, fertilizers and medicines), irrigation, the use of "Alsintan" (tool mechanization of farmers) but also needing group development with the management of farmer management so that they are willing and able to improve his farm so that it can increase the production, income and welfare of farmers.

Agriculture Regulation No. 82 of 2013 concerning Guidance for the Development of Farmer Groups and the Combined Farmers Group which defines that "farmer groups are a collection of farmers/farmers/ planters formed on the

basis of similar interests, similarities in social, economic and resource environmental conditions, similarity of commodities, and familiarity to improve and develop the members' business.

The big challenge in the era of globalization is intense competition in terms of the quality of human resources, commodities/products and quality of service. Competition is not only at the local, national, but international level. Therefore, each individual/organization must make efforts to improve its competence, business, or business proactively so that it can survive. Farmer organizations are no exception.

Batu Bara Regency is an area with tropical climate with 2 (two) seasons namely rainy and dry seasons. Batu Bara Regency consists of 7 sub-districts and 151 villages/sub district and one of them is Sei Suka District which is the location of the study. During the period of 2012-2014 the population of Batu Bara District continued to change from year to year, in 2012 as many as 381,023 people, to 382,960 in 2013, then in 2014 to 396,479 people. Based on Simluhtan data (2017), the number of farmer groups in Sei Suka District totaled 163 Farmer Groups and the number of Gapoktan 18 groups.

The problems found in the farmer groups in Sei Suka District are the factors that cause group management effectiveness that are not yet known with certainty. Therefore, from these problems an assessment of "Motivation of Farmers in Farmer Group Management To Increase Corn Production in Sei Suka District, Bara District" is expected in the future to be a solution to the problems that occur.

A. Purpose

The aim of this study:

1. Knowing the Level of Motivation of Farmers in Making Farmers Group Management Effective in Sei Suka District, Batu Bara Regency

2. Knowing the Factors Affecting the Motivation of Farmers Group Management in Sei Suka District, Batu Bara Regency

II. IMPLEMENTATION METHOD

A. Time and Place

This research was conducted for 4 months (February - May 2018) in Sei Suka District, Batu Bara Regency, North Sumatra Province. This study used descriptive quantitative methods. Research conducted to collect information by compiling a list of questions submitted to respondents. In this study, surveys were used to examine the symptoms of a group or individual behavior[1].

Each variable tested is independent (X) and dependent (Y) using ordinal data types and using a Likert scale. The questionnaire tested are developed based on predetermined indicators. Variables X1 (Age), X2 (Formal Education), X3 (Community Environment), X4 (Leadership Style), X5 (Cooperation), X6 (Group Administration) and X7 (Experiment Experience). All variables tested are cured by using a Likert Scale with 4 levels of scale and the type of data used is ordinal data. Variable Y (Farm Management Management Motivation) is measured based on the indicators specified.

Variable measurement in this study uses a Likert scale. What will be measured is translated into a variable indicator and the indicator is used as a starting point to compile instrument items that can be statements or questions. The measurement of the variables causing the effectiveness of farmer group management can be seen in table 1 below.

TABLE 1. Measurement of Variable Motivation Factors in Farmer Group Management

| No | Variable | Indik\cator | Scale | Measurement |
|----|--|---|-------|--------------|
| 1 | Age (X1) | Farmers age when in the field | 1 - 5 | Scale Likert |
| 2 | Formal Education(X2) | Education owned by farmers in the field | 1 - 5 | Scale Likert |
| 3 | Society Environment (X3) | The environment around the farmer when he is in the field | 1 - 5 | Scale Likert |
| 4 | Leadership style (X4) | Style of a leader who is in a farmer group | 1 - 5 | Scale Likert |
| 5 | Cooperation (X5) | Unity and togetherness in farmer groups | 1 - 5 | Scale Likert |
| 6. | Farmer Group Administration (X6) | Administration of farmer groups in the field | 1 - 5 | Scale Likert |
| 7. | Experience of Farming (X7) | Length of farmers in groups | 1 – 5 | Scale Likert |
| 8. | Motivation Management of Farmer Group (Y) | 1. Achievement of Goals | 1 – 5 | Scale Likert |

Source. Analysis primer data (2018)

Sampling was carried out in a simple random sampling (purposive sampling) of 94 farmer respondents who joined the farmer group. To find out the factors that influence the "Motivation of Farmers in Farmers Group Management to Increase Corn Production in Sei Suka District, Bara District" this was carried out multiple linear regression analysis with the following mathematical formula.

 $Y = a +b1X1 + b2X2+b3X3 + b4X4 + b5X5+b6X6 +b7X7 + \mu$

Information:

Y: Farm Management Effectiveness

X1: Age

X2: Formal Education

X3: Community Environment

X4: Leadership Style

X5: Cooperation

X6: Group Administration

X7: Experimental Experiencea

A = Konstant (\hat{Y} : X_1, X_2, X_3, X_4, X_5, X_6, X_7 = 0)

b = Regression Coofisient (value of increase or decrease)

To determine the suitability of the analysis models of these factors used coefficient of determination (R2) and F test (overall test). The value of determination (R2) is to determine the accuracy of the model used showing the ability of the independent variable to explain its effect on the dependent variable, which is expressed by what percentage of the dependent variable is explained by the independent variables included in the regression model. R2 values range from 0-1 and if the results obtained are close to 1, the model is said to be good. The coefficient of determination with the formulation as follows:

R2 =
$$\frac{SS_{REg}}{SS_{Tot}}$$
 or $R^2 = \frac{\sum_{i} (\hat{Y} - \hat{Y})^2}{\sum_{i} (Yi - \hat{Y})^2}$

Information:

Y '= The results of estimating the value of the dependent variable

Y = Average value of the dependent variable

Yi = value of observation

R2 = Coefficient of Determination

F test is used to determine the level of influence of all independent variables (X) jointly on the dependent variable (Y) or to find out whether the independent variable (X) together affects the dependent variable (Y).

$$F_{calculated} = \frac{(R^2)/(k-1)}{(1-R^2)/(n-k)}$$

Ftable = (k-1), (n-k): α

Information

R2 = coefficient of determination

k = Number of regression coefficients

n = Number of samples

 α = Critical value

III. RESULTS AND DISCUSSION

The location of the study regarding the Motivation of Farmers in Making Farmers Management Effective for Increasing Corn Production in Sei Suka District, Batu Bara Regency by taking samples in 4 villages, namely Simodong Kwala Tanjung, Pematang Jering, and Pematang Kuing Villages can be seen in Table 2.

1.Population and Sample

The number of population in this study is presented in tabe 2. The following is the population of the study in Sei Suka District.

TABLE 2. Number of Population and study samples in Sei Suka District

| No | Name of village | Total of farmer (person) | Total sample |
|----|-----------------|--------------------------|--------------|
| 1 | Simodong | 453 | 25 |
| 2 | Kwala Tanjung | 145 | 8 |
| 3 | Pematang Jering | 585 | 32 |
| 4. | Pematang Kuing | 519 | 29 |
| | Jumlah | 1702 | 94 |

Sourc: Data Simluhtan and Analysis Data Primer (2018)

2. Instrument Analysis

a. Validity test

One way to measure it can use the product moment correlation formula as follows:

$$r = \frac{N(\sum xy) - (\sum xy)}{\sqrt{(N\sum x^2 - (\sum x)^2)(N\sum x^2 - (\sum x)^2)}}$$

Information:

N = Number of Respondents

X = Score Question or Statement

Y = Total Score

XY = Correlation Coefficient

Validity test was carried out on 20 respondents and the respondent was outside the sample, but part of the population. The results of this validity test are fully presented in Table 3.

TABLE 3. Results of Questionnaire Validity Test

| No | Variable | r-calculated | r_{table} | Sign. | Noted |
|----|---------------------|--------------|-------------|-------|-------|
| 1 | Age (X1) | 0,590** | 0,444 | 0,006 | Valid |
| | | 0,674** | 0,444 | 0,001 | Valid |
| | | 0,654** | 0,444 | 0,002 | Valid |
| 2 | Formal Education | 0,605** | 0,444 | 0,005 | Valid |
| | (X2) | 0,487* | 0,444 | 0,029 | Valid |
| | | 0,595** | 0,444 | 0,006 | Valid |
| | | 0,687** | 0,444 | 0,001 | Valid |
| 3 | Environment Society | 0,713** | 0,444 | 0,000 | Valid |
| | (X3) | 0,661** | 0,444 | 0,002 | Valid |
| | | 0,687** | 0,444 | 0,001 | Valid |

| | | | CIL | 55IN: 254 | 0-4013 |
|---|-----------------------|-----------|-------|-----------|--------|
| | | 0,733** | 0,444 | 0,000 | Valid |
| | | 0,550* | 0,444 | 0,012 | Valid |
| | | 0,796** | 0,444 | 0,000 | Valid |
| 4 | Leadership style (X4) | 0,738** | 0,444 | 0,000 | Valid |
| | | 0,906** | 0,444 | 0,000 | Valid |
| | | 0,747** | 0,444 | 0,000 | Valid |
| | | 0,883** | 0,444 | 0,000 | Valid |
| 5 | Cooperation (X5) | 0,602** | 0,444 | 0,005 | Valid |
| | | 0,528* | 0,444 | 0,017 | Valid |
| | | 0,540* | 0,444 | 0,014 | Valid |
| | | 0,671** | 0,444 | 0,001 | Valid |
| | | 0,536* | 0,444 | 0,015 | Valid |
| | | 0,444* | 0,444 | 0,050 | Valid |
| 6 | Group | 0,482* | 0,444 | 0,031 | Valid |
| | Administration (X6) | 0,637** | 0,444 | 0,003 | Valid |
| | | 0,841** | 0,444 | 0,000 | Valid |
| | | 0,850** | 0,444 | 0,000 | Valid |
| | | 0,673** | 0,444 | 0,001 | Valid |
| | | 0,721** | 0,444 | 0,000 | Valid |
| 7 | Farming Experience | 0,802** | 0,444 | 0,000 | Valid |
| | (X7) | 0,570** | 0,444 | 0,009 | Valid |
| | | 0,717** | 0,444 | 0,000 | Valid |
| | | 0,526* | 0,444 | 0,017 | Valid |
| 8 | Achievement of | 0,794** | 0,444 | 0,000 | Valid |
| | Objectives (Y1) | $0,502^*$ | 0,444 | 0,024 | Valid |
| | | 0,690** | 0,444 | 0,001 | Valid |
| | | 0,892** | 0,444 | 0,000 | Valid |
| | | 0,747** | 0,444 | 0,000 | Valid |
| | | 0,624** | 0,444 | 0,003 | Valid |
| 9 | Member Satisfaction | 0,832** | 0,444 | ,000 | Valid |
| | (Y2) | 0,727** | 0,444 | ,000 | Valid |
| | | 0,937** | 0,444 | ,000 | Valid |
| | | 0,634** | 0,444 | ,003 | Valid |

Source: Analysis Data Primer (2018)

b. Reliability Test

According to [1], reliability is easier to understand by paying attention to three aspects of a measuring instrument, namely stability, accuracy, and homogeneity. The Alpha Crombach formula can be seen below.

$$r = \left(\frac{n}{n-1}\right) \left(1 \frac{\sum s_f^2}{s_f^2}\right)$$

Information:

r = Realibilty Cooficient

n = ManyItems

 $\sum s_{t}^{2}$ = Total score Varian in Item

s 2/t = Total Varian

If the alpha value > 0.60 is called reliable, the opposite if the alpha value is 0.60 is called unreliable. The use of this method depends on the type of variable size (nominal, ordinal, interval, and ratio. The following results of the reliability test analysis are presented into Table 4 below

TABLE 4. Reliability Test

| No | Variabel | Nilai | Nilai | Kategori |
|----|------------------------------------|-----------|--------|----------|
| | market and the second | Crobach's | Minimu | |
| | | Alpha | m | |
| 1. | $Age(X_1)$ | 0. 627 | 0,600 | Reliable |
| 2. | Formal Education (X ₂) | 0.763 | 0,600 | Reliable |
| 3. | Environment Society | 0.775 | 0,600 | Reliable |
| | (X_3) | | | |
| 4. | Leadership style (X ₄) | 0.879 | 0,600 | Reliable |
| 5. | Cooperatuon (X ₅) | 0.656 | 0,600 | Reliable |
| 6. | Group Administration | 0.834 | 0,600 | Reliable |

| | (X_6) | | | |
|----|---|-------|-------|----------|
| 7. | Farming Experience (X ₇) | 0.724 | 0,600 | Reliable |
| 8. | Achievement of Objectives (Y ₁) | 0.813 | 0,600 | Reliable |
| 9. | Member Satisfaction (X ₂) | 0.788 | 0,600 | Reliable |

The results of the questionnaire are then tabulated and the results will be used as instrument material. Furthermore, the questionnaire instrument that has been declared valid and Reliable was distributed back to the sample that was the object of this study.

3. Analysis of Factors Affecting Farmers 'Motivation in Farmers' Management

By using multiple linear regression test using SPSS 24 with a 95% confidence level ($\alpha = 0.05$). The following results of the analysis of farmer management effectiveness levels will be presented in Table 5.

TABLE 5. Analysis of Factors Affecting Farmer Motivation in Farmer Management

| Model Summary ^b | | | | | | |
|----------------------------|-------|----------|------------|-------------------|--|--|
| | | | Adjusted R | Std. Error of the | | |
| Model | R | R Square | Square | Estimate | | |
| 1 | ,724a | ,524 | ,232 | 7,98860 | | |

a. Predictors: (Constant), farming experience (x7), formal education (x2), cooperation (x5), group administration (x6), leadership style (x4), age (x1), community environment (x3)

b. Dependent Variable: management effectiveness of farmer groups (y).

From the table, obtained R Square of 0.524, which means that the coefficient of determination is 52.4%, which means that the effect of the variable X on the Y variable is low. Thus, it means that the other 47.6% Y variable is influenced by other factors outside the X variable in this study. The R value which is a symbol of the correlation coefficient is obtained at 0.724 which means that the correlation between the variables x with the variable y is 0.724. This means there is a close relationship, because the value is close to 1. According to [2] and [3], the R value between 0-1, the closer to 1, the closer the relationship, and vice versa, if it approaches 0 then the relationship getting further. Furthermore, the T Test and F Test are conducted to find out the effect on this study.

F-Test

To determine the effect simultaneously or together between the independent variable (X) on the dependent variable (Y), the F test is carried out with the following formula:

F count =
$$(R^2/k)/((1-R^2)/(n-k-1))$$

Information:

R² = Dual Correlation Coefficient

N = number of sample members

K = number of independent variables

In this study, the F Test was conducted to find out whether the independent variable (X) has a simultaneous effect on the dependent variable (Y). F test results can be seen in Table 6.

TABLE 6. F Test Results

| | \$1551\\\ 25\\\ 0.015 | | | | | | | |
|---|-----------------------|-------------------|----|-------------|-------|-------|--|--|
| | ANOVA ^a | | | | | | | |
| | Model | Sum of Squares | Df | Mean Square | F | Sig. | | |
| 1 | Regressio n | 2162,237 | 7 | 308,891 | 4,840 | ,000b | | |
| 1 | Residual | 5233,052 | 82 | 63,818 | | | | |
| | Total | 7395,289 | 89 | | | | | |

a. Dependent Variable: management effectiveness of farmer groups (y)

Based on the data in table 6 above, that the f value is 4.840 and the significance value is 0.000. From these results it can be concluded that f count (4.840) > f table (2.22) and a significance value of 0.000 < 0.05 then H0 is rejected and H1 is accepted. This means that variable X simultaneously has a significant effect on variable Y. According to [4], the value with f count is constant with f table, using a 95% confidence level with the error level (a) used is 5% (0, 05) then, f count \geq f table means the independent variable (X) simultaneously or together give effect to the dependent variable (Y).

Partial Influence Test Results

To determine the significance level of influence partially or the effect of each independent variable (X) on the dependent variable (Y) used t test with a 95% confidence level $(\alpha\ 0.05)$ with the formula:

$$t = rs \sqrt{((n-2)/(1-(rs)^2)}$$

Conclusion:

If t_count \geq t table (a 0.05) means that H0 is rejected, meaning that there is a significant influence between the independent variable (X) on the dependent variable (Y).

If t_count \leq t table (a 0.05) means that H0 is accepted, meaning that there is no significant effect between the independent variable (X) on the dependent variable (Y).

Partial testing is done by comparing the value of t Calculate with t table or compare the probability value to the error level (α) . This T test is also conducted to determine whether the independent variable (X) has a partial effect on the dependent variable (Y). The following results of the t test are presented in Table 7.

TABLE 7. Results of Analysis of Regression

| Model | | Unstandardized Coefficients | | Stand ardiz ed Coeff icient s | T | Sig. |
|-------|----------------|-----------------------------|---------------|--|-------|------|
| | | В | Std. Error | Beta | | |
| 1 | (Cons tant) | 23,483 | 9,984 | | 2,352 | ,021 |
| | X1 | 1,640 | ,377 | ,475 | 4,349 | ,000 |
| | X2 | ,094 | ,393 | ,025 | ,240 | ,811 |

b. Predictors: (Constant), farming experience (x7), formal education (x2), cooperation (x5), group administration (x6), leadership style (x4), age (x1), community environment (x3)

| X3 | ,082 | ,322 | ,034 | ,256 | ,798 |
|----|-------|------|-------|------------|------|
| X4 | -,829 | ,420 | -,218 | - 1,976 | ,052 |
| X5 | ,127 | ,295 | ,043 | ,430 | ,669 |
| X6 | -,368 | ,219 | -,205 | - 1,684 | ,096 |
| X7 | ,038 | ,350 | ,012 | ,107 | ,915 |

Source: 2018 Primary Data Analysis SPSS Version 24

Based on Table 7 above, it can be seen that the results of the analysis show a significant and insignificant influence between variables, if referring to the statement of Redono (2015), that the t-count value is absolute so that the negative sign is not taken into account. The regression equation is as follows:

$$\begin{array}{l} Y=\alpha+\beta_{1}X_{1}+\beta_{2}X_{2}+\beta_{3}X_{3}+\beta_{4}X_{4}+\beta_{5}X_{5}+\beta_{6}X_{6}+\beta_{7}X_{7}\\ Y=23,483+1,640~X_{1}+0,094~X_{2}+0,082~X_{3}-0,829~X_{4}+0,127~X_{5}-0,368~X_{6}+~0,038~X_{7} \end{array}$$

To find out the effect of each variable X on Farmer's Motivation in Making Effective Management of farmer groups can be known by comparing the value of t count with the value of t table, and compare the level of significance. If the value of t arithmetic > t table or the value of t-count <- t table and the level of significance <0.05, the decision is there is a significant partial effect between the variable X to Variable Y [4]. The magnitude of the influence is described as follows:

1) Age (X1)

The magnitude of the effect of the variable Age (X1) on Farmer Motivation in Making Farmer Group Management Effective (Y) is 47.5%. This can be seen from the Standardized Coefficients Beta value of 0.475. According to [5], stated that the younger the age farmers usually have the enthusiasm to want to know what they do not know, so that they try to adopt innovations more quickly even though they are still inexperienced about the adoption of these innovations.

Based on interviews with respondent farmers that under 50 years of age can provide influence and contribution in farmer management, because productive age is usually easier for farmers to carry out an activity whether it is farming or other activities that are still in the agricultural sector and in contrast to aged respondents over 50 years. Farmers of respondents aged above 50 years in maturity think they are no longer able to do activities in farmer groups because farmers who are not productive in participating in the activities of farmers and farming do not have the willingness and ability of productive farmers.

2) Formal Education (X2)

The magnitude of the influence of Formal Education (X2) variables on Farmers' Motivation in Effectively Managing Farmer Group Management (Y) is 2.5% seen from the Standardized Coefficients Beta value of 0.025. Respondent farmers education was dominated by elementary and junior high school formal education by 73.33 and the high school level was only 24 people (26.67%). This is due to the fact that the respondent farmers do not think that the importance of formal education in farming activities or the implementation of farmer group organizations is not considered and that even

without formal education they can run the agricultural sector they carry out. Thus the formal education of respondent farmers does not affect the effectiveness of farmer group management. This statement is also supported by [6], formal education shows a person's rationality and thinking ability. The higher the level of education of farmers, it will encourage farmers to think more advanced and more rational. This is supported by [7], people with higher education levels will find it easier to accept and apply new technologies that will bring change towards better development.

3) Community Environment (X3)

The magnitude of the effect of the variable Community Environment (X3) on Petni's Motivation in Making the Management of the Farmer Group (Y) effective is 3.4%. as evidenced by the Standardized Coefficients Beta value of 0.034. Environmental factors of the community do not give effect to the state of the farmer groups and do not pay too much attention to the environment of the farmer group management, because according to the respondents the environment can influence the family environment which can be used as other variables to be studied in the future because the community environment is more influential on the family environment, this is due the environment closest to them is family.

Based on the conditions in the field, the community environment at the study site is more likely to lead to the industrial environment and the surrounding community as well as many who work in the industrial sector. This has caused people to prefer and prioritize working in the industrial sector rather than taking care of farmer groups and agricultural fields which are considered to be less profitable for them. That is why the community environment does not affect the effectiveness of farmer group management, because the community environment is more preoccupied with work that is outside of the agricultural sector. According to [8] and [9], stated that the community environment is an environment outside of the family, both in the three regions and in other regions. Communities that can influence the interest in entrepreneurship, of course, if the neighborhood is a lot of people entrepreneurship.

According to [10], society is a group of people as a whole and is a system that gives rise to culture and habits where everyone feels bound to each other which includes all good relations in groups and individuals in one area. The community environment will encourage more advanced influence if the community environment has the will and the ability for others to become more developed and advanced.

4) Leadership Style (X4)

The magnitude of the influence of the Leadership Style (X4) variable on Farmers' Motivation in Effectively Managing Farmer Group (Y) is 21.8% seen from the Standardized Coefficients Beta value of -0.218. This states that partially the factor of leadership style has a real influence but gives a

negative influence or inversely proportional to the motivation of farmers in the effectiveness of farmer group management.

Based on the results of the study that the leadership style used does not give effect to the group's motivation in streamlining the management of farmer groups. This is due to the selection of group managers who are not suitable or not desired by some members of other farm groups or because the management of the farmer groups is usually directly elected by the local agricultural extension staff and for the management of the farmer groups they are sometimes appointed directly by the members of the farmer group, but the administrator is not necessarily able and unwilling appointed as a board so that the level of caring for the group is also not good.

Leadership in group management in the study location also did not apply rotation or change of leader and leader (chairman or management) of the farmer groups to be replaced if the management resigned for certain reasons such as illness and age factors that were no longer productive. Therefore, these factors do not affect the effectiveness of farmer group management. With rotational leadership, trust in abilities in yourself and the ability of other members will increase, because each of them already know each other in the task of the same obligation, namely in leading. Trust in the ability of self and other members is a characteristic that is typical of groups that carry out their duties successfully [11].

5) Cooperation (X5)

The magnitude of the effect of the Cooperation variable (X5) on Petni's Motivation in Effecting the management of the Farmer Group (Y) is 4.3% seen from the Standardized Coefficients Beta value of 0.043. According to [12] quote which states that if one party is disadvantaged in the process of cooperation, then cooperation is no longer fulfilled. In an effort to achieve mutual benefits or benefits from cooperation, it is necessary to have good communication between all parties and a common understanding of common goals. This is what supports the cooperation variable does not affect the effectiveness of farmer group management, because the respondent farmers think that they are not very benefited by the management of farmer groups based on their time to work to be reduced. The existence of strong social capital illustrates the development of networks, norms and social beliefs that facilitate mutually beneficial coordination and cooperation. According to [12] and [13] states that based on that, the participation of farmers and high collaboration among farmers will encourage the achievement of high institutional effectiveness as well. This means that there are other variables besides cooperation that can affect the effectiveness of farmer group management, such as farmers' needs, and the role of extension workers in it.

Based on the facts in the field, sometimes the management of farmer groups and members of farmer groups already have their own activities and work in the industrial sector and other sectors so that the institutional groups of farmers are not going well. According to [14], [15] revealed that the absence of togetherness in the group occurred because some of the

management had their own activities, so that the administration in the group did not work well and had no influence on the institutional groups of farmers.

6) Group Administration (X6)

The magnitude of the effect of the Group Administration variable (X6) on Petni's Motivation in Making Farmer Group Management (Y) effective is 20.5% as seen from the Standardized Coefficients Beta value of -0.205. This is because the completeness of the farmer group administration is still said to be incomplete or there are even some farmer groups that do not have the same farm administration book in which there are several types of farm administration, namely administration of activities and also financial administration. The activity administration consists of 11 books, namely Member Member Books. Guest Book, Minutes of Meeting Book, Group Activity Book, Productivity and Production Book, Incoming Book Agenda Book and Outgoing Letter, Expedition Book, Members Ownership Facility Book, Book of Land Area Book, Management Book and Present Register Book. While the financial administration has 6 books, namely Cash Book, Member Fee Book, Member Savings Book, Inventory Book, Sales Book, and Purchasing Book. Farmers must have these books in the management of farmer groups and carry them out based on the criteria of farmer group activities and all of them are recorded in the specified book. But basically the administration book of these farmer groups themselves, not the administrators or groups that made it but the field agricultural instructor who made the book, so that the farmer and the board lacked the sense to own and run the book. In administrative devices are divided into two main parts, namely: administration of activities and financial administration. In the administration of activities, all records carried out by groups relate to group activities outside of financial matters. Whereas financial administration, all records that are specifically related to group finance [16] and [17]. Farmers think in groups only as their means to help increase crop production, so that for the administration of farmers they don't think too much.

7) Experience of Farming (X7)

The magnitude of the effect of the Experienced Experience variable (X7) on Petni's Motivation in Effective Management of Farmer Group (Y) is 1.2% as seen from the Standardized Coefficients Beta value of 0.012. Based on the conditions in the field, the experience of farming has no effect on the effectiveness of farmer group management even though the respondent farmers already have experience of cultivating an average of 6 years and farmers who have long-term farming experience as a result the attitude of the farmers no longer cares for their farmer groups because they assess that they already have a lot of experience and no need much to be taught and informed of the latest information and technology to them. Respondent farmers consider them to be far more able to experience farming because they immediately learn from the field and also their experience compared to others only from theory in some schools. It is this attitude of individualism of farmers that causes the experience of farming

does not affect the effectiveness of farmer group management [18,19].

The results of the interviews with the respondent farmers also showed that they preferred to cultivate agriculture rather than participate in group activities which were assessed by the respondents farmers could reduce their time to the land and they considered it could be detrimental to them because considering participating in group activities only wasted time on their land. Besides that, extension activities also do not give the farmers a profit effect and they are more guided by the farming experience they have been carrying out and doing for years so it is very difficult to collect farmers. This is a long time the experience of working on a farm has not necessarily influenced the effectiveness of farmer group management.

4. Level of Analysis of Farmer Motivation in Farmer Management Effectiveness

$$N = \frac{Total Score}{Maximum Score} x 100$$

The results of the analysis of the level of motivation of farmers in the management of farmer groups in Sei Suka District can be seen in table 9.

TABLE 9. Farmer Motivation Levels in Making Farmer Management Effective

| N o | Indicator | Total score | Maximu m score | Percenta ges (%) | Categoriri zed |
|--------|---------------------------------|-------------|-------------------|---------------------|-------------------|
| 1 | Achievement of objectives (Y1) | 2122 | 2700 | 78,6% | High |
| 2 | Member satisfication (Y2) | 1.394 | 1800 | 77,4% | High |
| Tot | al | 3516 | 4500 | 78 % | High |

Sapja Anantayu (2009) Achieving goals is one indicator of farmer institutional effectiveness. Parameters used: the existence and clarity of objectives, suitability of objectives with the needs of members, and the level of meeting the needs of members. Satisfaction according to Robbins and Judge (2007) in Riandari Irsa (2017) is a positive feeling about someone's work which is the result of an evaluation of his characteristics.

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REFERENCES

- S. Benyamin, S. Paningkat. 2017. Concepts and Implications of Educational Research. UNIMED PRESS Publisher.
- [2] Herawati, M. 2017. Interest in Urban Youth Against Agriculture in Binjai City, North Sumatra Province. Final Assignment Scientific Work. Medan Agricultural Extension College.

- [3] Pranata, Doni. 2017. The Effectiveness of Paddy Rice Farmers Groups in Sukoharjo District, Pringsewu Regency. Essay. State University of Lampung.
- [4] Redono. 2015. The Response of Farmers to the Use of Organic Fertilizers in Rice Field Crops in Bokoharjo Village, Prambanan District, Sleman Regency. Journal. Agricultural Extension College (STPP). Yogyakarta.
- [5] Sugiyono. 2017. Quantitative, Qualitative and R & D Research Methods. Alpabeta Publisher, Bandung.
- [6] Salmon, E. Kivry., Baroleh, Jenny., Mandei, R. Juliana. 2017. Application of Management Functions in Asi Endo Farmers Group in Tewasen Village, Amurang Barat District, South Minahasa Regency. Agri-SocioEconomics Unsrat 13 (3a): 259-270.
- [7] Septiana, A et al. (2015). Social Influence of Engagement on Elderly Cognitive Functions. Blitar, Jakarta.
- [8] Astuti, N. Aini. 2010. Analysis of the Effectiveness of Farmer Groups in Gatak District, Sukoharjo Regency. Essay. Sebelas Maret University, Surakarta.
- [9] Gulo, W. 2016. Perspective of Youth Interest in the Business of Food Agriculture in Moro'o District, West Nias Regency. Final Assignment Scientific Work. Medan Agricultural Extension College.
- [10] Fadil, Fathurrahman. 2013. Community Participation in Development Planning Consultation in Kotabaru Tengah Village. urnal Political and Local Government Sciences, II (2): 251-262.
- [11] Alfathan, Harits Ibnu. 2018. Leadership Style and Intensity of Gppt Communication with Group Effectiveness in the People's Farm School. Journal of Communication Science and Community Development 2 (3): 289-300
- [12] Sapja, Anantanyu, Sumardjo, Slamet, Margono., And Tjitropranoto Prabowo. 2009. Factors Affecting the Effectiveness of Farmer Institutions (Case in Central Java Province). Extension Journal 5 (1): 81-91.
- [13] Asni, Nur. 2016. Analysis of Factors Affecting Production and Income of Cashew Farming in Parangloe District, Gowa Regency. Essay. Faculty of Economics, Makassar State University.
- [14] Eryanto, Henry and S., Darma Rika. 2013. The Influence of Cultural Capital, Parental Education Level and Parent's Income Level on Academic Achievement at Students of the Faculty of Economics, Jakarta State University. Journal of Economic and Business Education: 39-61.
- [15] Hastuti, Sri. and Wijayanti, Luky. 2009. Managerial Performance: Results of Team Cooperation and Continuous Improvement. Journal of Economic Research and Business 1: 10-18.
- [16] Regulation of the Minister of Agriculture No. 82 of 2013 concerning Guidelines for the Development of Farmer Groups and Joint Farmer Groups. BKP5K Bogor Regency (ID).
- [17] Irsa, Riandari. 2017. Farmers 'Perception and the Effectiveness of Farmers' Groups in the Upsus Pajale Program in Banjar Baru District, Tulang Bawang Regency. Essay. Agribusiness Department, Faculty of Agriculture, University of Lampung.
- [18] Lakoy, Amanda C. 2015. Effect of Communication, Group Cooperation and Creativity on Employee Performance at Aryaduta Manado Hotel. EMBA Journal 3(3): 981-991.
- [19] Utmainah, Rika and Sumardjo. 2014. The Role of Farmer Group Leadership and Farmer Empowerment Effectiveness. Rural Sociology Journal 02 (03): 182-199 S. Benyamin, S. Paningkat. 2017. Concepts and Implications of Educational Research. UNIMED Press Publisher.